Appendix A
Notice of Preparation/ Initial Study and Written Comments

Notice of Preparation And Scoping Meeting for the City of Seal Beach Housing Element and Zoning Code Updates Project Environmental Impact Report

DATE: November 16, 2023

TO: Reviewing Agencies and Other Interested Parties

FROM: City of Seal Beach, Community Development Department, 211 Eighth Street Seal Beach, California 90740

PROJECT TITLE/SUBJECT: City of Seal Beach Housing Element and Zoning Code Updates Project – Notice of Preparation of an Environmental Impact Report (EIR) and Notice of Public Scoping Meeting

PROJECT APPLICANT: City of Seal Beach

NOTICE OF PREPARATION REVIEW PERIOD: November 16, 2023 – December 15, 2023

SCOPING MEETING: December 6, 2023

The purpose of this Notice of Preparation (NOP) is to notify potential Responsible Agencies (Agencies) that the Lead Agency, the City of Seal Beach (City), will prepare an Environmental Impact Report (EIR) for the proposed City of Seal Beach Housing Element and Zoning Code Updates Project (Project) and to solicit comments and suggestions regarding (1) the scope and content of the EIR and (2) the environmental issues and alternatives to be addressed in the EIR (California Environmental Quality Act [CEQA] Guidelines Section 15082). This NOP also provides notice to interested parties, organizations, and individuals of the preparation of the EIR and requests comments on the scope and contents of the environmental document.

Project Location: The Project site is currently comprised of 13 Housing Opportunity Sites dispersed throughout the City totaling approximately 278 acres. The City located at the northwestern edge of Orange County (County), California. It borders the City of Long Beach and Los Angeles County to the northwest, the Orange County Cities of Los Alamitos to the north, Westminster to the east, Huntington Beach to the southeast, and the Pacific Ocean to the west. The City has a land area of approximately 13 square miles.

PROJECT OVERVIEW

In accordance with California Government Code Section 65584, projected housing needs for each city and county in the Southern California region are prepared by Southern California Association of Governments (SCAG) under a process known as the Regional Housing Needs Assessment (RHNA). The RHNA allocates regional housing needs by income-level among member jurisdictions. California law established the planning period for the current RHNA from June 30, 2021, to October 15, 2029.

The Housing Element is one of the seven state-mandated elements of a local General Plan and is required to be updated every eight years. The City is preparing the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. It is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle.

Background: An Initial Study was prepared for the City to evaluate potential environmental impacts resulting from the implementation of the City's recent Housing Element Update, which was adopted by the Seal Beach City Council on February 7, 2022, but updated on August 24, 2023 in response to HCD comments, and identifies the City's housing conditions and needs and establishes the policies and programs that comprise the City's strategy to accommodate projected housing needs, including the provision of adequate housing for lower-income households and for special-needs populations (i.e., unhoused people, seniors, single-parent households, large

families, and persons with disabilities). The City is continuing to work with HCD to have the Housing Element Update certified and obtain compliance, as the Housing Element is one of the state-mandated elements of the General Plan. The Housing Element Update would bring the element into compliance with state legislation and the current SCAG RHNA.

The Housing Element Update includes the following components, as required by state law:

- An analysis of the City's demographic and housing characteristics and trends;
- An evaluation of land, financial, and administrative resources available to address the City's housing goals;
- A review of potential constraints, both governmental and non-governmental, to meet the City's housing needs; and
- A Housing Action Plan for the 2021-2029 planning period, including goals policies and programs.

The Housing Element Update identifies the following strategies and programs that focus on the following major goals:

- Facilitate the development of a variety of housing types for all income-levels to meet the existing and future needs of residents;
- Assist in the development of adequate housing to meet the needs of low- and moderate-income households;
- Address and, where appropriate and legally possible; remove governmental constraints to the maintenance, improvement and development of housing;
- Maintain and enhance the existing quality of residential neighborhoods in Seal Beach; and
- Affirmatively further fair housing opportunities for all persons regardless of race, color, national origin, ancestry, religion, sex, marital status, income, or familial status.

Regional Housing Needs Assessment (RHNA): In March 2021, SCAG adopted its 6th cycle RHNA allocation plan, covering the planning period of October 2021 through October 2029. During this cycle, SCAG received a need of 1,341,827 new housing units, which was distributed to all 197 SCAG jurisdictions (SCAG 2023). HCD compliance requires a demonstration by the City that it can meet its "fair share" of the RHNA allocation of 1,243 new housing units.

The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories. The City must demonstrate to HCD that the Housing Element Update has adequate land capacity and implementing policies to accommodate its RHNA allocation. In addition, HCD recommends that cities identify a "buffer" of 15 to 30 percent above the stated RHNA allocation for lower- and moderate-income categories to account for "No Net Loss" provisions of Senate Bill (SB) 166, which requires that the land inventory and site identification programs in the Housing Element Update always include sufficient sites to accommodate the unmet RHNA.

Project Description: The Project analyzes potential impacts resulting from implementation of the City's Housing Element Update and its resulting zoning code update and rezoning program. The Housing Element Update identifies Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's RHNA allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed.

The Housing Opportunity Sites inventory consists of three underutilized sites with a realistic potential for residential development and potential ADUs, as summarized in Table 1 below.

Table 1: Underutilized Sites Inventory (Rezoning Not Required)

Site No.	Address/ APN	General Plan/ Zoning	Approx. Acres	Existing Onsite Use(s)	Assumed Density (Dwelling Units per Acre)	Lower-Income Dwelling Units	Moderate-Income Dwelling Units	Above Moderate-Income Dwelling Units	Total Units
1	1780 Pacific Coast Hwy (APN 199-061-01)	Limited Commer-cial/ RMD-18	0.25	Older convenience store; zoning allows mixed-use	20	--	5	--	5
2	Leisure World (APN 095-691-04)	Residential High Density – Planned Community	5.5	RV Storage	30	74	38	38	150
3	Accessory Dwelling Units	All Residential and Mixed-Use Zones	N/A	Residential and Mixed-Use Zones	N/A	36	14	--	50
	TOTAL					110	57	38	205
Source: City of Seal Beach 2021-2029 Housing Element Update, Redline August 24, 2023 Version.									

The City's RHNA allocation for the current cycle calls for accommodating 1,243 new housing units at low-, moderate-, and above moderate-income levels. Of this total allocation, there are eight planned or recently approved ADUs that are anticipated for development, as well as 85 units currently planned or recently approved on underutilized sites, which can be counted towards the City's overall unit requirement.

Because the current capacity of these underutilized sites is not sufficient to fully accommodate the RHNA allocation in all income categories, due to zoning and other limitations, proposed rezone sites have been identified, as shown in Table 2, below.

Table 2: Proposed Rezone Sites (Unless Military)

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
4	Accurate Storage	095-791-18	Vehicle and boat storage	4	1.8	RHD-20	MC/RHD
5	The Shops at Rossmoor	086-492-51	Retail, office, fast food, grocery and pharmacy	27	10	GC	MC/RHD
6	Old Ranch Town Center	130-861-14, -15, -16, -17, -18, -19, -	Existing commercial center with bank,	26	5	GC	MC/RHD

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
		20, -21, -22, -23, -24, -25, -26, -27	surface parking, restaurants, department stores, retail, services, Ralph's supermarket, and CVS Pharmacy				
7	Seal Beach Plaza	095-641-44, -49, -55, -56, -57	Existing commercial center with Chase Bank, retail, market, drive through restaurant, and medical and professional offices	7	2.5	CS-SC	MC/RHD
8	Seal Beach Center	043-260-02, -05	Existing commercial center with CVS Pharmacy, retail, services, restaurant, and market	9	4	SC	MC/RHD
9	99 Marina Drive	199-011-10	Former oil separation facility with abandoned handball court	4.3	4.3	OE	RHD-33
10	Old Ranch Country Club ****	130-012-55	Portion of existing golf course	155	4	RG	SP
11	Naval Weapons Station PCH & Seal Beach Blvd. **	043-150-23	Portion of Naval Weapons Station Seal Beach	22	4	M	N/A
12	Water Storage Site (City Property Navy Base) **	--	Water and Equipment Storage	2.75	2	M	N/A
13	Main Street ***	043-112-21, -22, -23, -28, -29, -34, -35, -36, -41;	Existing Main Street Specific Plan commercial district, including retail, services,	15	N/A	MSSP	MSSP

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
		043-113-04, -08, 14, -15, -36, -37, -42, -46, -48, 51; 199-053-18, -19, -20, -21, -22, -23, -24, -25, -26, -28, -29, -30, -31; 199-043-10; -11, -12, -13, -14, -15, -16, -17, -18, -19, -20; 199-033-02; 199-034-01, -02, 03, -04, -05, -06, -07, -08, -09, -10, -11, -12, -13, -14, -15, -16, -17, -36; 199-044-19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34	offices, parking areas, restaurants and bars, theater, medical offices, plant nursery and other shops and retailers				

Source: City of Seal Beach 2021-2029 Housing Element Update, August 2023.

Notes:* The City will create a new Mixed Commercial/Residential High Density (MC/RHD). The new mixed-use zoning designation would need to be created to facilitate a density equivalent to Residential High Density (RHD)-46, with a minimum density of 40 units per acre.

** Zoning Not Applicable

*** Specific Plan Amendment Required

**** Land Use Change / Rezoning Required

GC = Commercial General

OSG = Open Space Golf

OE = Oil Extraction

RG = Recreation Golf

CS = Commercial Service

SC = Service Commercial

MC/RHD = Mixed Commercial/Residential High

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
M = Military MSSP = Main Street Specific Plan							

Of the 13 Housing Opportunity Sites, six would require rezoning, one would be rezoned through a proposed Specific Plan, and one would require an amendment to the Main Street Specific Plan. The rezoning effort would also include the establishment of a new zoning designation, "Mixed Commercial/Residential High Density" (MC/RHD), which would apply to five of the Housing Opportunity Sites. The new MC/RHD mixed-use zoning designation is needed in order to facilitate a density equivalent to Residential High Density (RHD)-46 (up to 46 units per acre) but with a minimum density of 40 units per acre.

Redevelopment of underutilized sites and ADUs could accommodate a total of approximately 205 new housing units, and potential rezone parcels could accommodate a total of approximately 1,628 new housing units. Based on this, by implementing the Project, the City would be able to provide 1,833 additional housing units, thereby accommodating the 2021-2029 RHNA allocation (1,243 new housing units) and a substantive buffer to demonstrate capacity for all income levels.

As these Housing Opportunity Sites are intended to be redeveloped or rezoned, an increased densification and intensification of low- and moderate-income residential uses would result. The proposed Project is ultimately implementing the Housing Element Update; therefore, preparation of an evaluation pursuant to CEQA is required in order to consider the potential environmental impacts caused by Project implementation, including an evaluation of the new zoning and the new zoning designation resulting from Project implementation which would result in increased densification and intensification of residential uses.

Required Approvals

The Housing Element is a component of the City of Seal Beach General Plan. Additionally, the HCD will review the Housing Element for compliance with applicable statutory provisions.

A focused EIR will provide the necessary environmental determination required by CEQA. The focused EIR would be adopted by Resolution of the City Council.

Implementation of the Project would require the following approvals:

- Certification of the CEQA document;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Adoption of the Findings of Facts and Statement of Overriding Consideration (if applicable);
- Change of Zone/Specific Plan Amendment; and
- Seal Beach Municipal Code, Zoning Code Amendment.

ENVIRONMENTAL ISSUES TO BE EVALUATED IN THE EIR

The City of Seal Beach, the lead agency for the proposed 6th Cycle Housing Element Update and focused EIR, is subject to environmental review under CEQA. As defined by Section 15063 of the CEQA Guidelines, an Initial Study is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an EIR, Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project. The Initial Study prepared for the proposed Project has determined that the proposed applications will result in potentially significant environmental impacts and therefore, an EIR is deemed as the appropriate document to provide necessary

environmental evaluations and clearance for the proposed Project.

Pursuant to CEQA, the discussion of potential effects on the physical environment is focused on those impacts that may be significant or potentially significant. CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (Public Resource Codes (PRC) Section 21100, CCR Sections 15126.2[a] and 15128). CEQA requires that the discussion of any significant effect on the environment be limited to substantial, or potentially substantial, adverse changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (statutory definition of "environment").

Environmental effects identified in the Initial Study prepared for the proposed project that are dismissed as less than significant and unlikely to occur need not be discussed further in the EIR, unless the lead agency subsequently receives information inconsistent with the finding in the Initial Study (CCR Section 15143). Environmental issue areas scoped out of the focused EIR will include an explanation of why these issues would not result in significant environmental effects and are not required to be evaluated further. The following environmental topics will be evaluated in the EIR:

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

The EIR will address the short-term and long-term effects of the Project on the environment. It will also evaluate the potential for the Project to cause direct and indirect growth-inducing impacts, as well as cumulative impacts. Alternatives to the proposed Project will be evaluated that may reduce impacts that are determined to be significant in the EIR. Mitigation may be proposed for those impacts that are determined to be significant. A mitigation monitoring and reporting program (MMRP) will also be developed as required by Section 15097 of the CEQA Guidelines. The environmental determination in this Notice of Preparation (NOP) is subject to a 30-day public review period per Public Resources Section 21080.4 and CEQA Guidelines Section 15082. Public agencies, interested organizations, and individuals have the opportunity to comment on the proposed Project, to identify those environmental issues, potentially affected by the Project which should be addressed further by the City in the EIR.

Scoping Meeting: Pursuant to Section 21083.9 of the Public Resources Code, a scoping meeting will be held for the general public and responsible and trustee public agencies, as indicated below. The purpose of the scoping meeting is to learn about the Project, review the anticipated scope of the EIR, and assist the City in identifying the range of actions, alternatives, mitigation measures, and potentially significant effects to be analyzed in depth in the EIR.

Scoping Meeting Date	Scoping Meeting Time	Scoping Meeting Location
December 6, 2023	6:00 PM	City Council Chambers 211 Eighth Street Seal Beach, California 90740

Public Review and Comment Period: A 30-day public review period for comments on the scope of the EIR starts on **Thursday November 16, 2023**, and ends on **Friday December 15, 2023** at **5:00 P.M.** Please send your comment, with your name and address, to: Alexa Smittle, Community Development Director, City of Seal Beach, Community Development Department, 211 Eighth Street, Seal Beach, CA 90740 or via e-mail to: ASmittle@sealbeachca.gov.

A copy of the Initial Study/NOP describing the Project and potential environmental effects is available at the following locations:

- Orange County Public Library, Seal Beach Branch, 707 Electric Avenue, Seal Beach, CA 90740
- Orange County Public Library, Los Alamitos-Rossmoor Branch, 12700 Montecito, Seal Beach, CA 90740
- The City's website: https://www.sealbeachca.gov/Departments/Community-Development/Planning-Development/Environmental-Documents-Under-Review.

CITY OF SEAL BEACH HOUSING ELEMENT AND ZONING CODE UPDATES

Initial Study

November 16, 2023

Prepared for:
City of Seal Beach
Community Development Department
211 Eighth Street
Seal Beach, CA 90740

Prepared by:
Stantec Consulting Services Inc.
1340 Treat Blvd, Suite 300
Walnut Creek, CA 94597

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Acronyms / Abbreviations

AAQS	Ambient Air Quality Standard
AB	Assembly Bill
ADU	accessory dwelling unit
AF	acre-feet
amsl	above mean sea level
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
BMP	best management practices
Cal EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCC	California Coastal Commission
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Seal Beach
CNEL	community noise equivalent level
County	Orange County
CO_2	carbon dioxide
DAMP	Drainage Area Management Plan
dB	decibel
DOC	California Department of Conservation
DOF	Department of Finance
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESA	environmental site assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Responsibility Area
General Plan	City of Seal Beach 2003 General Plan
GHG	greenhouse gas

GWh	gigawatt-hours
GWRS	Groundwater Replenishment System
HCD	California Department of Housing and Community Development
HCP	Habitat Conservation Plan
HFC	hydrofluorocarbons
Housing Element Update	2021-2029 Housing Element Update
ISMND	Initial Study Mitigation Negative Declaration
I/L ratio	ratio of improvement value to land value
LCP	Local Coastal Program
LHMP	Local Hazard Mitigation Plan
Los Al USD	Los Alamitos Unified School District
MG	million gallons
MGD	million gallons per day
MRZ	Mineral Resource Zone
MWDOC	Municipal Water District of Orange County
NCCP	Natural Community Conservation Plan
NPDES	National Pollutant Discharge Elimination System
NOP	Notice of Preparation
NOx	oxides of nitrogen
NWR	National Wildlife Refuge
N_2O	nitrous oxide
OC San	Orange County Sanitation District
OCFA	Orange County Fire Authority
OCTA	Orange County Transportation Authority
OCTAM	Orange County Transportation Analysis Model
OCWD	Orange County Water District
OE	Oil Extraction
OPR	Governor's Office of Planning and Research
O_3	ozone
PFC	perfluorocarbons
$PM_{2.5}$	fine inhalable particulate matter
PM_{10}	coarse inhalable particulate matter
PRC	Public Resources Code
Project; proposed Project	City of Seal Beach General Plan Zoning Code Updates Project
RHD-20	residential high density
RHNA	Regional Housing Needs Assessment
RPS	Renewables Portfolio Standards
SB	Senate Bill

SBPD	Seal Beach Police Department
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SF_6	sulfur hexafluoride
SoCAB	South Coast Air Basin
SoCalGas	Southern California Gas Company
SR	State Route
SRA	State Responsibility Area
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled

1.0 INTRODUCTION

1.1 PROJECT TITLE

City of Seal Beach Housing Element and Zoning Code Updates Project (Project, proposed Project)

1.2 LEAD AGENCY NAME AND ADDRESS

City of Seal Beach
Community Development Department
211 Eighth Street
Seal Beach, CA 90740

1.3 CONTACT PERSON AND PHONE NUMBER

Alexa Smittle, Community Development Director
Community Development Department
211 Eighth Street
Seal Beach, CA 90740
(562) 431-2527 x1313

1.4 PROJECT SPONSOR'S NAME AND ADDRESS

City of Seal Beach
211 Eighth Street
Seal Beach, CA 90740

1.5 PROJECT LOCATION

The Project site is currently comprised of 13 identified sites[1] dispersed throughout the City of Seal Beach, California (City; Seal Beach) and totaling approximately 278 acres. The City is located at the northwestern edge of Orange County (County), California. It borders the City of Long Beach and Los Angeles County to the northwest, the Orange County Cities of Los Alamitos to the north, Westminster to the east, Huntington Beach to the southeast, and the Pacific Ocean to the southwest, as shown in Figure 1. The City has a land area of approximately 13 square miles, as shown in Figure 2.

[1] The Housing Element proposes an increase in accessory dwelling units (ADUs) that may be located in any residential or mixed-use area by right. Though ADUs are exempt from CEQA, and their respective locations are unknown at this time, the Housing Element collectively refers to them as a "site" (Opportunity Site 3) in order to recognize the contribution they make to housing production as required by the Housing Element. Therefore, the potential ADU sites are identified as one collective Housing Opportunity Site resulting in a total of 13 identified Housing Opportunity Sites.

1.6 SURROUNDING LAND USES

As the existing land uses are comprised of a variety of land uses across the city, the surrounding land uses are similarly varied in character. They consist of residential development, vacant land, commercial and retail uses, parking lots, mobile home parks, institutional and industrial uses, and military uses as well as other urban and suburban land uses throughout the City.

1.7 PROJECT PURPOSE

In accordance with California Government Code Section 65584, projected housing needs for each city and county in the Southern California region are prepared by Southern California Association of Governments (SCAG) under a process known as the Regional Housing Needs Assessment (RHNA). The RHNA allocates regional housing needs by income-level among member jurisdictions. California law established the planning period for the current RHNA from June 30, 2021, to October 15, 2029.

The Housing Element is one of the seven state-mandated elements of a local General Plan and is required to be updated every eight years. The City is preparing the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. It is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle.

In addition to including goals, policies, and implementation programs regarding housing issues, housing elements must include an inventory or list of housing sites at sufficient densities to accommodate a specific number of units at various levels of affordability assigned to the City by SCAG. The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories.

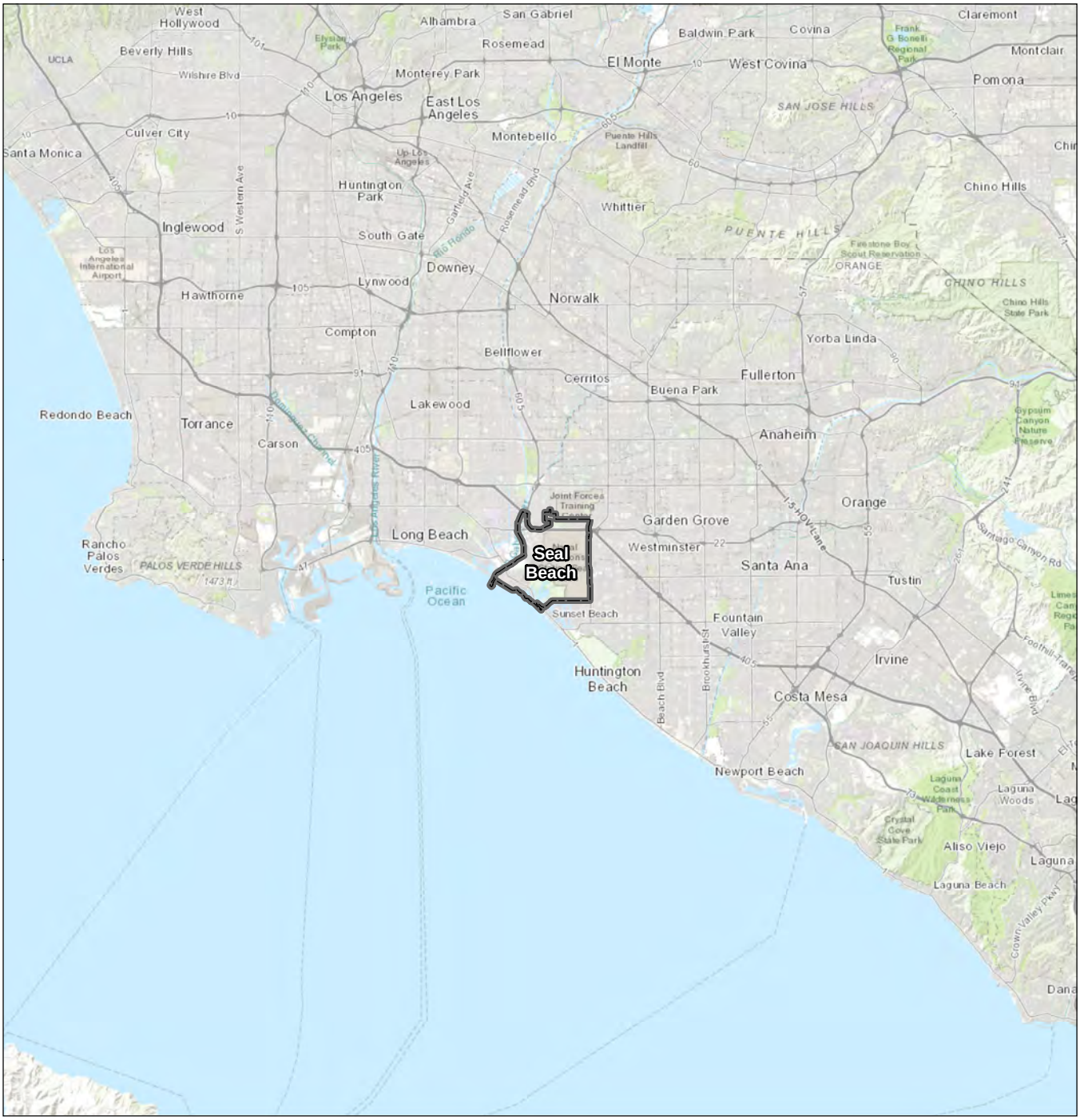
The Housing Element Update identifies Housing Opportunity Sites throughout the City, as shown on Figure 3, that have the potential for providing additional housing to meet the City’s RHNA allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed. In Seal Beach, the Housing Opportunity Sites uniquely include two sites located on the Seal Beach Naval Weapons Station, where the City has no zoning authority, but housing development would present a change of use. Of the 13 Housing Opportunity Sites, six would require rezoning, the two Seal Beach Naval Weapons Station sites would require a change of use, one is proposed for a Specific Plan, and one would require an amendment to the Main Street Specific Plan (MSSP). The rezoning effort would also include the establishment of a new zoning designation, “Mixed Commercial/Residential High Density” (MC/RHD), which would apply to five of the Housing Opportunity Sites. The new MC/RHD mixed-use zoning designation is needed in order to facilitate a density equivalent to Residential High Density (RHD)-46 (up to 46 units per acre) but with a minimum density of 40 units per acre.

As these Housing Opportunity Sites are intended to be redeveloped or rezoned, an increased densification and intensification of low- and moderate-income residential uses would result.

1.8 INTENDED USE OF THE INITIAL STUDY

This Initial Study is an informational document intended to inform the lead agency, other responsible or interested agencies, and the general public of potential environmental effects of the proposed Project. The environmental review process has been established to enable public agencies to evaluate potential environmental consequences and to examine and implement methods of eliminating or reducing any potentially significant adverse impacts. This document is intended to aid the City in determining the appropriate California Environmental Quality Act (CEQA) document needed to support agency discretionary approvals, permits, and consultations.

The proposed Project is ultimately implementing the Housing Element Update; therefore, preparation of an evaluation pursuant to CEQA is required in order to consider the potential environmental impacts caused by Project implementation, including an evaluation of the new zoning and the new zoning designation resulting from Project implementation which would result in increased densification and intensification of residential uses. The Housing Element Update includes an inventory of Housing Opportunity Sites located throughout the City, some of which are intended to be rezoned to accommodate the RHNA allocation of new housing units that would also be suitable for low- and moderate-income units.



Legend

City of Seal Beach Boundary

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Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources:
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

Stantec

Project Location
Seal Beach, CA

Prepared by KJ on 2023-11-14
Review by AR on 2023-11-14

Client/Project
City of Seal Beach
Housing Element and Zoning Code Updates
Initial Study

Figure No.
1

Title
Regional Location

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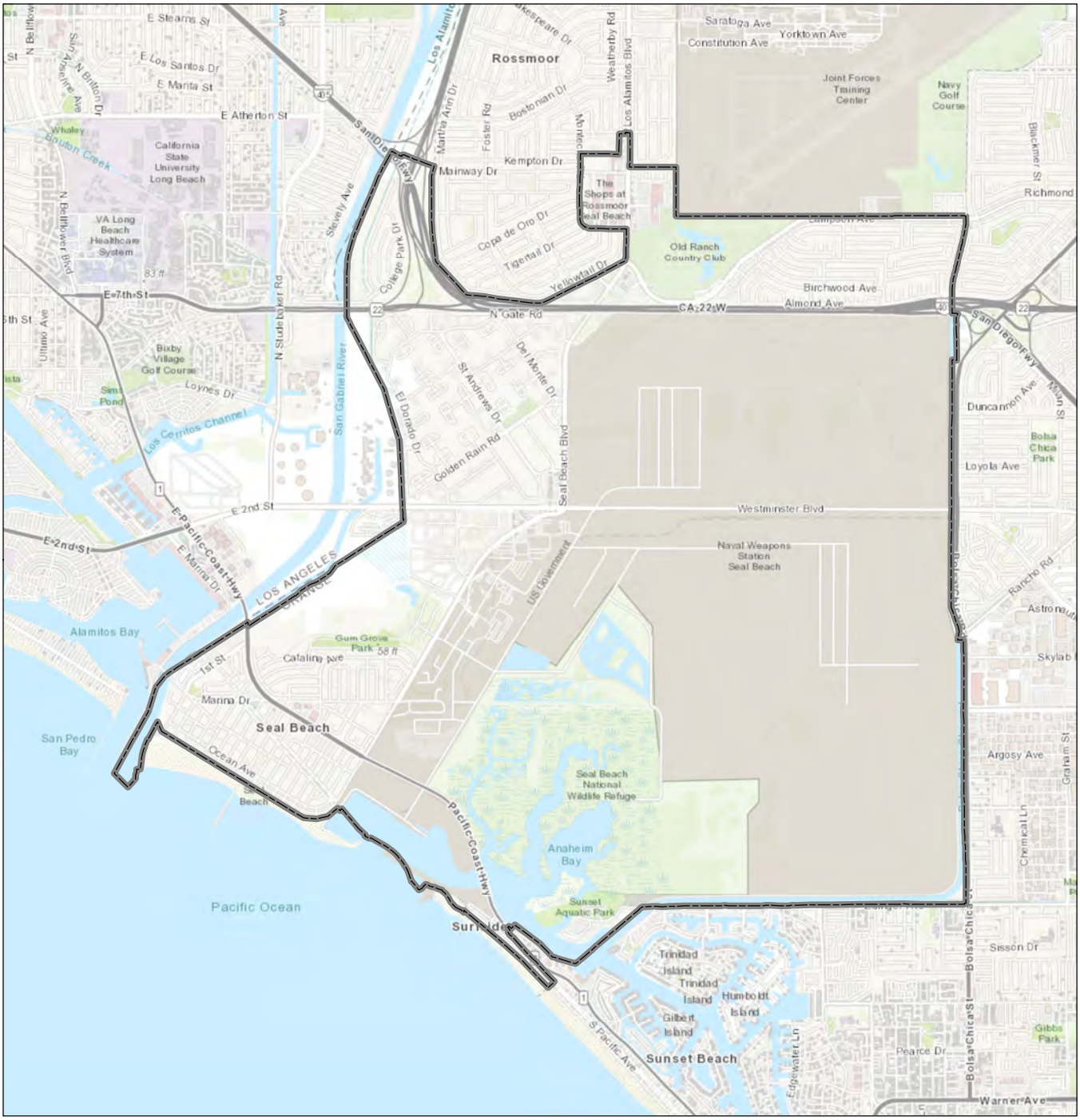

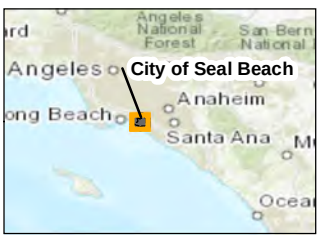

Legend

City of Seal Beach boundary

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Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources:
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

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Project Location
Seal Beach, CA

Prepared by KJ on 2023-11-14
Review by AR on 2023-11-14

Client/Project
City of Seal Beach
Housing Element and Zoning Code Updates
Initial Study

Figure No.
2

Title
City of Seal Beach Map

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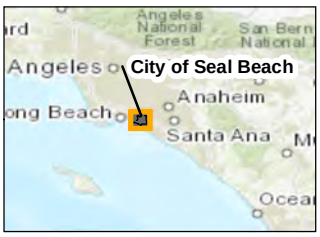
Housing Opportunity Sites

1. 1780 Pacific Coast Hwy
2. Leisure World
3. Accessory Dwelling Units*
4. Accurate Storage
5. The Shops at Rossmoor
6. Old Ranch Town Center
7. Seal Beach Plaza
8. Seal Beach Center
9. 99 Marina Drive
10. Old Ranch Country Club
11. Naval Weapons Station PCH & Seal Beach Blvd.
12. Water Storage Site (City Property Navy Base)
13. Main Street

** Sites for Accessory Dwelling Units are not depicted on the map. The sites would be dispersed and located in any residential or mixed-use area by right.*



Legend

- Housing Opportunity Site
- City of Seal Beach boundary

0 0.25 0.5 Miles
(At original document size of 8.5x11)
1:60,000

N

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources:
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

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Project Location
Seal Beach, CA

Prepared by KJ on 2023-11-14
Review by AR on 2023-11-14

Client/Project
City of Seal Beach
Housing Element and Zoning Code Updates
Initial Study

Figure No.
3

Title
Housing Opportunity Sites Map

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2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The Seal Beach City Council adopted the City of Seal Beach's Housing Element Update on February 7, 2022. In response to California Department of Housing and Community Development (HCD) comment, the City updated the Housing Element Update on August 24, 2023. The City is preparing the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. It is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle. The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories.

The Housing Element Update identifies an inventory of Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's RHNA allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed. Of the 13 Housing Opportunity Sites, six would require rezoning, the two Seal Beach Naval Weapons Station sites would require a change of use, one is proposed for a Specific Plan, and one would require an amendment to the MSSP. The City's rezoning effort would also include the establishment of a new zoning designation, MC/RHD, which would apply to five of the Housing Opportunity Sites. The new MC/RHD mixed-use zoning designation is needed in order to facilitate a density equivalent to RHD-46 (up to 46 units per acre) but with a minimum density of 40 units per acre. This new zone district would facilitate housing for lower-income households as required by the state's RHNA allocation for the City and facilitate the inclusion of affordable units.

2.2 HOUSING ELEMENT UPDATE

This Initial Study is prepared for the City to evaluate potential environmental impacts resulting from the implementation of the City's recent Housing Element Update, which was adopted by the Seal Beach City Council on February 7, 2022, and updated on August 24, 2023 in response to HCD comments. It identifies the City's housing conditions and needs and establishes the policies and programs that comprise the City's strategy to accommodate projected housing needs, including the provision of adequate housing for lower-income households and for special-needs populations (i.e., unhoused people, seniors, single-parent households, large families, and persons with disabilities). The City is continuing to work with HCD to certify the Housing Element Update. The Housing Element Update would bring the element into compliance with state legislation and the City's current RHNA allocation.

In March 2021, SCAG adopted its 6th cycle RHNA allocation plan, covering the planning period of October 2021 through October 2029. During this cycle, SCAG received a need of 1,341,827 new housing units, which was distributed to all 197 SCAG jurisdictions (SCAG 2023). HCD compliance requires a demonstration by the City that it can meet its "fair share" of the RHNA allocation of 1,243 new housing units.

The Housing Element Update includes the following components, as required by state law (City of Seal Beach 2022):

- An analysis of the City's demographic and housing characteristics and trends;
- An evaluation of land, financial, and administrative resources available to address the City's housing goals;
- A review of potential constraints, both governmental and non-governmental, to meet the City's housing needs; and
- A Housing Action Plan for the 2021-2029 planning period, including goals policies and programs.

The Housing Element Update identifies the following strategies and programs that focus on the following major goals:

- Facilitate the development of a variety of housing types for all income-levels to meet the existing and future needs of residents;
- Assist in the development of adequate housing to meet the needs of low- and moderate-income households;
- Address and, where appropriate and legally possible; remove governmental constraints to the maintenance, improvement and development of housing;
- Maintain and enhance the existing quality of residential neighborhoods in Seal Beach; and
- Affirmatively further fair housing opportunities for all persons regardless of race, color, national origin, ancestry, religion, sex, marital status, income, or familial status.

The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories. The City must demonstrate to HCD that the Housing Element Update has adequate land capacity and implementing policies to accommodate its RHNA allocation. In addition, HCD recommends that cities identify a "buffer" of 15 to 30 percent above the stated RHNA allocation to account for "No Net Loss" provisions of Senate Bill (SB) 166, which requires that the land inventory and site identification programs in the Housing Element Update always include sufficient sites to accommodate the unmet RHNA. Based upon HCD's buffer policy, Seal Beach must plan for a minimum of 1,430 new housing units. In its current iteration, the August 2023 Housing Element plans for 1,833 new housing units to be conservative in its approach to the RHNA and anticipating additional modifications may be required by HCD.

2.2.1 Rezoning and Creating of New Zoning Designation

Program 1B of the Housing Element Update commits to a rezoning program that facilitates housing for lower-income households as required by the state's RHNA allocation for the City. As described, in order to implement housing development at some of the proposed Housing Opportunity Sites and address constraints on the development of housing for a variety of income-levels, the City must establish a new

zoning designation, MC/RHD, which would apply to five of the Housing Opportunity Sites, facilitating residential development at what are generally commercial sites currently. The new MC/RHD mixed-use zoning designation would facilitate a residential density of RHD-46 (up to 46 units per acre) with a minimum density of 40 units per acre to better facilitate development of housing affordable to lower income levels in accordance with HCD policy. Other changes to zoning designations include implementation of a proposed Specific Plan which includes proposed housing and for which an independent Environmental Impact Report is being prepared; revisions to the existing MSSP to allow for second-story residential use; and rezoning a former oil extraction property to residential use,

The actions described above would result in a change to the permitted uses and development standards on eight of the Housing Opportunity Sites to align with the densities identified in the Housing Opportunity Sites Residential Development Potential list (Table 4, below). In addition, the City has a unique circumstance with the two sites located on Seal Beach Naval Weapons Station, where the Housing Element proposes a change in use, but the City has no zoning authority, therefore these sites will not be rezoned through the City's Zoning Code but growth is nonetheless planned for in the Housing Element.

Housing Element Update Program 1B

The proposed new zoning designation of MC/RHD will consider how to accommodate State requirements and policies to allow for: a minimum residential density of 40 units per acre and maximum residential density of 46 units per acre on larger, developed sites large enough size to permit: at least 16 units; exclusively residential uses; at least 50 percent of the building floor area of a mixed-use development to be dedicated to residential uses; and housing by-right with at least 20 percent of the units affordable to lower-income households. The definitions of "persons and families of low- and moderate-income," "lower-income households," and "very low-income households" as set forth in Health and Safety Code Sections 50079.5, 50093, and 50150 shall apply. The City shall engage with affected property owners, the Building Industry Association, affordable housing developers, and other stakeholders during the zoning process to ensure the development standards can result in the development of the maximum number of units allowed and facilitate the inclusion of affordable units.

2.3 REGIONAL HOUSING NEEDS ASSESSMENT

SCAG has allocated the region's 1,341,827 housing unit growth needs among the 197 jurisdictions in the region, including cities and counties, through the adopted its 6th cycle RHNA allocation plan, covering the planning period of October 2021 through October 2029. The RHNA represents the minimum number of housing units that the City's sites inventory must accommodate for in its Housing Element Update, through its General Plan and Zoning. The City's RHNA allocation is 1,243 new housing units, which is distributed among four income categories, consisting of 258 very low-, 201 low-, 239 moderate-, and 545 above moderate-income units (SCAG 2021).

2.3.1 Existing Site Conditions

The City has identified an inventory of sites across all areas of the city to implement programs to meet its RHNA. The City's current base zoning, including the General Plan land use designation implemented by zoning designation, are provided in Table 1, below.

Table 1: Current Zoning and General Plan Land Use Designations

Zoning	Abbreviation	General Plan Designation Implemented by Zoning
Base Residential Zoning Districts		
Residential Low Density – 9[a]	RLD-9	Residential Low Density
Residential Low Density – 15[a]	RLD-15	Residential Low Density
Residential Medium Density – 18[b]	RMD-18	Residential Medium Density
Residential High Density – 20[c]	RHD-20	Residential High Density
Residential High Density – 33[c]	RHD-33	Residential High Density
Residential High Density – 46[c]	RHD-46	Residential High Density
Base Mixed-Use, Commercial, and Industrial Districts		
Limited Commercial/Residential Medium Density[d]	L-C/RMD	Mixed Use
Main Street Specific Plan	MSSP	Main Street Specific Plan
Professional Office	PO	Professional Office
Service Commercial	CS/SC	Service Commercial
General Commercial	GC	General Commercial
Light Manufacturing	LM	Light Manufacturing
Oil Extraction	OE	Oil Extraction
Base Public and Semi-Public Park Districts		
Public and Semi-Public Facilities	PS	Community Facility and School
Recreation/Golf	RG	Open Space – Golf
Base Military, Open Space, and Park Districts		
Military	M	Military
Beach	BEA	Beach
Open Space Natural	OS-N	Open Space
Open Space Parks and Recreation	OS-PR	Park
Overlay District and Specific Plan Zone Regulations		
Residential Conservation Overlay	RC-O	All
Planned Unit Development Overlay	PUD/PD	All
Commercial/Park	C/P	All
Coastal Zone	CZ	All
Specific Plan Regulation	SPR	All

Source: City of Seal Beach, General Plan Zoning Map, 2013; City of Seal Beach Municipal Code and Zoning Ordinance, Chapter 11.1.05.030, 2021.

Zoning	Abbreviation	General Plan Designation Implemented by Zoning
Notes: [a] Typical single-unit, and small, zero-lot line neighborhoods at a base density up to 9 or 15 dwelling units per net acre respectively. [b] Duplexes, townhouse projects, apartments, and small-lot, single-unit residential uses, at a density of 15 to 18 dwelling units per net acre. Additional density may be achieved through density bonuses. [c] Multi-unit residential developments at a base density of 20 to 46 dwelling units per net acre. Additional density may be achieved through density bonuses. [d] Limited commercial and office uses in conjunction with residential uses.		

2.3.2 Housing Opportunity Sites Categories

An important component of the City's Housing Element Update is the identification of sites for future housing development, including an evaluation of the adequacy of those sites in fulfilling the City's share of regional housing needs. Seal Beach is nearly built-out with almost no vacant developable land remaining. Therefore, the site inventory must rely primarily on non-vacant sites.

The inventory of Housing Opportunity Sites addresses fair housing objectives by providing opportunities for affordable housing throughout the city. Potential underutilized sites and ADUs also create opportunities for affordable housing dispersed throughout the city in low-density residential neighborhoods, thereby expanding affordable housing choices. The Housing Opportunity Sites are not concentrated in low-resource areas. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed.

Underutilized Sites

The Housing Opportunity Sites inventory consists of three underutilized sites with realistic potential for residential development and potential ADUs, as summarized in Table 2. The Housing Element proposes an increase in ADUs that may be located in any residential or mixed-use area by right. Though ADUs are exempt from CEQA, and their respective locations are unknown at this time, the Housing Element collectively refers to them as a "site" (Opportunity Site 3) in order to recognize the contribution they make to housing production as required by the Housing Element. Therefore, the potential ADU sites are identified as one collective Housing Opportunity Site resulting in a total of 13 identified Housing Opportunity Sites.

The City's RHNA allocation for the current cycle calls for accommodating 1,243 new housing units at low-, moderate-, and above moderate-income levels. Of this total allocation, there are eight planned or recently approved ADUs that are anticipated for development, as well as currently planned or recently approved on underutilized sites, which can be counted towards the City's overall unit requirement.

Because the current capacity of these underutilized sites is not sufficient to fully accommodate the RHNA allocation in all income categories, due to zoning and other limitations, proposed rezone sites have been identified, as shown in Table 2, below.

Table 2: Underutilized Sites Inventory (Rezoning Not Required)

Site No.	Address/APN	General Plan/ Zoning	Approx. Acres	Existing Onsite Use(s)	Assumed Density (Dwelling Units per Acre)	Lower-Income Dwelling Units	Moderate-Income Dwelling Units	Above Moderate-Income Dwelling Units	Total Units
1	1780 Pacific Coast Hwy (APN 199-061-01)	Limited Commer-cial/ RMD-18	0.25	Older convenience store; zoning allows mixed-use	20	--	5	--	5
2	Leisure World (APN 095-691-04)	Residential High Density – Planned Community	5.5	RV Storage	30	74	38	38	150
3	Accessory Dwelling Units	All Residential and Mixed-Use Zones	N/A	Residential and Mixed-Use Zones	N/A	36	14	--	50
	TOTAL					**110**	**57**	**38**	**205**

Source: City of Seal Beach 2021-2029 Housing Element Update, Redline August 24, 2023 (City of Seal Beach 2023a).

Proposed Rezone Sites

To accommodate the balance of the RHNA allocation and provide the required unit buffer, the City conducted an evaluation of potential properties where land use regulations could be amended to create additional opportunities for housing or mixed-use development, and 10 sites have been identified for further evaluation to determine the most appropriate parcels to be rezoned. Due to the lack of vacant and underutilized sites in the city, the sites were identified and analyzed in light of the development standards for their proposed zoning designation.

Initially, all parcels in the city were evaluated through a process of elimination based on criteria set by HCD. Where housing units could not be located at sites under present zoning, the City examined nonresidential areas where zoning amendments could facilitate residential development. A Housing Element Ad Hoc Committee was established and held two meetings to assist in identifying and evaluating potential sites for housing development. In addition, City staff contacted several property owners to assess interest in multi-family or mixed-use redevelopment. With the exception of the City-owned parcel on the Seal Beach Naval Weapons Station which was an addition to the draft Housing Element following the withdrawal of a site owned by the County of Orange, the sites listed in Table 3 were also reviewed by the Planning Commission and City Council at public hearings, and property owners and other interested stakeholders had the opportunity to provide comments on sites that should be considered for additional residential development.

The City analyzed the most current parcel-level data to determine which sites were most appropriate for inclusion into the site inventory and to estimate the number of additional units that are likely to be developed. Bearing in mind that most of the developable land within the City consists of established residential uses, most of these areas were eliminated from consideration, as land assembly in a single-family neighborhood was considered infeasible. To ensure sites selected for the site inventory do not have existing uses that are impediments to housing development, an analysis was conducted to select sites that are most likely to develop during the planning period. Development likelihood and feasibility was determined by a number of different variables, including the improvement-to-land value ratio (I/L ratio), existing lot coverage, lot size, future development potential, and existing uses. As the I/L ratio serves as an indicator of the likelihood of redevelopment, according to the Housing Element Update, a I/L ratio or less than 1.0 for commercial and multi-family residential properties indicates that the parcels are underutilized, with a higher potential for residential infill redevelopment.

Table 3: Proposed Rezone Sites (Unless Military)

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
4	Accurate Storage	095-791-18	Vehicle and boat storage	4	1.8	RHD-20	MC/RHD
5	The Shops at Rossmoor	086-492-51	Retail, office, fast food, grocery and pharmacy	27	10	GC	MC/RHD
6	Old Ranch Town Center	130-861-14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27	Existing commercial center with bank, surface parking, restaurants, department stores, retail, services, Ralph's supermarket, and CVS Pharmacy	26	5	GC	MC/RHD
7	Seal Beach Plaza	095-641-44, -49, -55, -56, -57	Existing commercial center with Chase Bank, retail, market, drive through restaurant, and medical and professional offices	7	2.5	CS-SC	MC/RHD

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
8	Seal Beach Center	043-260-02, -05	Existing commercial center with CVS Pharmacy, retail, services, restaurant, and market	9	4	SC	MC/RHD
9	99 Marina Drive	199-011-10	Former oil separation facility with abandoned handball court	4.3	4.3	OE	RHD-33
10	Old Ranch Country Club ****	130-012-55	Portion of existing golf course	155	4	RG	SP
11	Naval Weapons Station PCH & Seal Beach Blvd. **	043-150-23	Portion of Naval Weapons Station Seal Beach	22	4	M	N/A
12	Water Storage Site (City Property Navy Base) **	--	Water and Equipment Storage	2.75	2	M	N/A
13	Main Street ***	043-112-21, -22, -23, -28, -29, -34, -35, -36, -41; 043-113-04, -08, 14, -15, -36, -37, -42, -46, -48, 51; 199-053-18, -19, -20, -21, -22, -23, -24, -25, -26, -28, -29, -30, -31; 199-043-10; -11, -12, -13, -14, -15, -	Existing Main Street Specific Plan commercial district, including retail, services, offices, parking areas, restaurants and bars, theater, medical offices, plant nursery and other shops and retailers	15	N/A	MSSP	MSSP

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
		16, -17, -18, -19, -20; 199-033-02; 199-034-01, -02, 03, -04, -05, -06, -07, -08, -09, -10, -11, -12, -13, -14, -15, -16, -17, -36; 199-044-19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34					

Source: City of Seal Beach 2021-2029 Housing Element Update, August 2023.

Notes:* The City will create a new Mixed Commercial/Residential High Density (MC/RHD). The new mixed-use zoning designation would need to be created to facilitate a density equivalent to Residential High Density (RHD)-46, with a minimum density of 40 units per acre.

** Zoning Not Applicable

*** Specific Plan Amendment Required

**** Land Use Change / Rezoning Required

GC = Commercial General

OSG = Open Space Golf

OE = Oil Extraction

RG = Recreation Golf

CS = Commercial Service

SC = Service Commercial

MC/RHD = Mixed Commercial/Residential High

M = Military

MSSP = Main Street Specific Plan

2.3.3 Housing Opportunity Site Descriptions

The Housing Element Update currently includes descriptions for the Housing Opportunity Sites, with an explanation of the methodology for the sites that are currently developed with various uses. With respect to existing utility infrastructure, such as water, wastewater, drainage systems, and dry utilities, there are no known limitations that would preclude the potential development and increased intensification of uses

at each of the Housing Opportunity Sites. A description of the Housing Opportunity Sites is provided below, as taken from the August 24, 2023 Housing Element Update (City of Seal Beach 2023a).

Site 1 – 1780 Pacific Coast Highway (No Rezoning)

Location: 1780 Pacific Coast Highway (PCH; Pacific Coast Highway), at the eastern corner of the intersection of Pacific Coast Highway and Seal Beach Boulevard. The site has housing to the rear of it, and retail to the north. Across the street to the south is the Naval Weapons Station, and to the west are single family residential uses.

Size: 0.25 acre

Current Use: retail, specifically a small liquor store and a bait shop.

Current Zoning: Limited Commercial/Residential Medium Density (LC/RMD)

Reason For Selection: This parcel is developed with an older commercial building currently occupied by a liquor/convenience store. The site is immediately adjacent to housing, with access to goods and services.

Assumed Development Capacity: This zoning designation allows residential use at up to 20 units per acre. The site can reasonably accommodate a ground floor commercial use and parking, with five second-story housing units. Because of its small size, this parcel has been listed in the moderate-income site inventory, as shown in Table 4, below.

Site 2 – Leisure World (No Rezoning)

Location: Leisure World is a large, high-density residential senior community generally bound by Westminster Boulevard, Seal Beach Boulevard, Interstate (I)-405, and the Los Alamitos Flood Control Channel. The community currently has 6,608 units. The opportunity site within the development is located along the eastern border, about 0.33 mile from the southwestern corner of the community.

Size: 5.5 acres

Current Use: Recreational vehicle storage

Current Zoning: Residential High Density–Planned Development (RHD-PD)

Reason For Selection: The underutilized site is located in a community that, while not income-restricted, offers a variety of affordable housing options with more than 75 percent of the population in Leisure World consisting of low- to moderate-income households. The existing site zoning allows for residential high-density development.

Assumed Development Capacity: An additional 150 units can be accommodated at a density of 30 units per acre on approximately 5 acres presently devoted to recreational vehicle storage. As 75 percent of the population in Leisure World currently consists of low- to moderate-income households, Table 4,

below, projects half of the units as lower-income, one quarter at moderate, and the balance at market to be conservative.

Site 3 – Accessory Dwelling Units (No Rezoning)

Location: Throughout the City, in all residential and mixed-use zones.

Current Zoning: All Residential and Mixed-Use Zones

Reason For Selection: ADUs represent a significant opportunity for affordable housing, particularly for single persons or small households including the elderly, college students, young adults, and caregivers.

Assumed Development Capacity: While interest in ADUs has not historically been high in Seal Beach, recent changes to state law have increased awareness and interest. It has conservatively been assumed that 50 ADUs will be built during this planning cycle. Given that ADUs can introduce low-income units in high resource areas, the City would undertake a number of steps to promote the development of ADUs and consider development of incentives to make ADUs affordable to very low-income households. The City would monitor the effectiveness of its efforts twice a year and make adjustments as necessary.

SCAG conducted a regional survey and reported the results in August 2020. SCAG's research supports an assumption that 73 percent of ADUs could be affordable to lower-income households in the County (even assuming a 50/50 mix of one- and two-person households). Evidence from other jurisdictions throughout California indicates that between 17 and 50 percent of ADUs may be rent-free as the property owners provide housing for their adult children and/or aging parents. The inventory in Table 4, below, implements SCAG's assumption of 73 percent of units at lower-income, and the balance at moderate-income.

Site 4 – Accurate Storage (Rezoning Required)

Location: 1011 Seal Beach Boulevard. This site is bordered by office, commercial and light industrial uses to the north and west, by the City Police Station across Adolfo Lopez Drive to the south, and by the Seal Beach Naval Weapons Station across Seal Beach Boulevard to the east.

Size: 4.4 acres

Current Use: Self storage facility

Current Zoning: High Density Residential (RHD-20)

Reason For Selection: This site has been selected as a candidate housing site due to underutilized parking onsite, its proximity to services, and interest from the property owner. There are no known environmental constraints on this property, and the site has access to employment and transit routes.

Assumed Development Capacity: As the current zoning did not result in redevelopment of this site with residential uses, the development assumptions have been revised. The I/L ratio is less than 1.0 (0.54), indicating a likelihood for redevelopment, with conversion of the outdoor storage being the most likely to intensify in value. The indoor storage could remain in place and not be an impediment to development

due to the site plan and overall quality of development and maintenance of the site. Therefore, it is assumed that only 1.8 acres of the site will redevelop to housing, instead of the entire 4.4 acres. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up to 83 units, or more if a density bonus is employed. However, given the existing onsite buildings and the resulting limitations to development design, the projected number of units has been reduced to 59. Because the presumed developable area is less than two acres, Table 4, below, projects a conservative estimate of only 10 percent at lower-income and 10 percent at moderate-income, despite a proposed density of 46 units per acre.

Site 5 – The Shops at Rossmoor (Rezoning Required)

Location: This multi-address retail center is located on the west side of Seal Beach Boulevard between St. Cloud Drive and Rossmoor Center Way.

Size: 27 acres

Current Use: Retail center, with uses including Marshalls, Kohl's, Ulta, Sprouts Farmers Market, and Burlington

Current Zoning: General Commercial (CG)

Reason For Selection: This site was selected due to an abundance of underutilized parking accompanied by owner interest in development of housing units. The site's I/L ratio is less than 1.0 (0.85), meaning the site is economically underutilized, despite being a generally successful retail center. A new mixed-use zone would allow for greater flexibility to utilize the land. High-density residential uses are located adjacent to the property to the west, as such the site's proposed high-density use would be consistent with surrounding uses.

Assumed Development Capacity: The site is 27 acres, and surface parking occupies approximately 19 acres. It is assumed that 10 of the acres could be developed with housing. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up to 460 units, exclusive of a density bonus. Because of the ample development potential, Table 4, below, projects 25 percent of units at lower-income, 25 percent at moderate-income, and the balance at market rate.

Site 6 – Old Ranch Town Center (Rezoning Required)

Location: This multi-address retail center is on the east side of Seal Beach Boulevard, between the Old Ranch Country Club golf course and Plymouth Drive.

Size: 26 acres

Current Use: Retail center including stores such as Target and Ralph's supermarket.

Current Zoning: General Commercial (GC)

Reason For Selection: Similar to the Shops at Rossmoor, the Old Ranch Town center has a significant amount of underutilized parking, and primarily big box uses. The addition of housing to this site is feasible

as it is immediately adjacent to goods and services, has access along a major thoroughfare, and can integrate with the scale of the existing development. The I/L ratio ranges by parcel, with the largest parcel at 0.95 and the second largest parcel at 0.07.

Assumed Development Capacity: It is assumed 20 percent of the center could be developed or redeveloped with housing uses. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up to 239 units. Because of the development potential, Table 4, below, projects 25 percent of units at lower-income, 25 percent at moderate-income, and the balance at market.

Site 7 – Seal Beach Plaza (Rezoning Required)

Location: This multi-address retail center is at the northwest corner of Seal Beach Boulevard and Westminster Boulevard. Two churches and Leisure World are to the north and west, and generally the Naval Weapons Station surrounds the other sides.

Size: 7 acres

Current Use: Retail and office/service uses.

Current Zoning: Service Commercial (SC)

Reason For Selection: This site's I/L ratio is less than 1.0 (0.72). Similar to other retail plazas, the site is underutilized with large parking areas. The site offers access to goods and services. The site is located adjacent to Leisure World where existing development is high-density.

Assumed Development Capacity: This site can be redeveloped entirely or partially as a mixed-use project; however, it is assumed that residential uses would be developed on 2.5 acres of the site. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up to 115 units. However, due to the smaller developable area, Table 4, below, conservatively estimates 10 percent of units at lower-income, 10 percent at moderate-income, and 80 percent at market rate.

Site 8 – Seal Beach Center (Rezoning Required)

Location: This retail plaza is located on Pacific Coast Highway, between Balboa Drive and Bolsa Avenue. It is directly across Pacific Coast Highway from Main Street.

Size: 9 acres

Current Use: The center consists of two anchor stores, a Pavilions supermarket and a CVS Pharmacy, along with several smaller retail and restaurant tenant spaces.

Current Zoning: Service Commercial (SC)

Reason For Selection: This site has an I/L ratio less than 1.0 (0.72), indicating it is underutilized and could perform to a higher capacity. Its location provides walkability and access to goods and services, including an elementary school. A small mixed-use project could be undertaken using available parking

and redeveloping portions of the site with housing above retail. The property representatives have expressed an interest in mixed-use development as a future possibility to increase site utility.

Assumed Development Capacity: It is assumed that residential uses would be developed on 4.5 acres of the site. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up 207 units, without using a density bonus. However, because the site is adjacent to low-density single-family use, and greater setbacks or step-backs may be appropriate in the revised zoning code, a lower development threshold of 120 units and 4 acres of developable area is assumed. While four acres is ample development capacity, because this opportunity site is directly across the street from single-family homes, Table 4, below, conservatively estimates 15 percent of the units at lower-income levels, 15 percent at moderate-income, and the balance at market despite being zoned at 46 units per acre.

Site 9 – 99 Marina (Rezoning Required)

Location: 99 Marina Drive, northeast of Marina Drive and First Street intersection.

Size: 4.3 acres

Current Use: Vacant. A handball court is located on the western edge of the property and the City maintains a small section of the property around the court as the court is located adjacent to a public park.

Current Zoning: Oil Extraction (OE)

Reason For Selection: Oil extraction activities at the site no longer occur and the current property owners (Exxon and Chevron) are actively marketing the property. City staff has received inquiries on the property from potential buyers and support of residential development at the site, from the community. Additionally, the site is surrounded by existing residential uses.

Assumed Development Capacity: A density of 33 units per acre is proposed at this site to meet the default density thresholds established under Government Code Section 65583.2(c)(3)(B)). However, this location may have additional development standards imposed by the California Coastal Commission, similar to the adjacent development, where a portion of the site was left as open space. Thus, the total housing production anticipated at the site is 90 units, all of which are conservatively assumed to be above moderate-income.

Site 10 – Old Ranch Country Club (Rezoning/Land Use Change Required; Specific Plan Required)

Location: The entire facility, approximately 155 acres in size, is located north of Lampson Avenue, and south of the Joint Forces Training Base and Old Ranch Town Center, just east of Seal Beach Boulevard. The proposed housing sites are located along the western edge of the property, one near the intersection of Lampson Avenue and Seal Beach Boulevard, and the other further south, across Lampson Avenue from the Ivy Park assisted living facility.

Size: 155 acres

Current Use: Golf course and supporting amenities.

Current Zoning: Recreation Golf (RG)

Reason For Selection: At this time, the landowner has a development application in process with the City for the development of 116 family units and 51 senior units.

Assumed Development Capacity: As this is an active development application, the numbers proposed by the property owner are now the assumed development, for a total of 167 units. All units have been assumed at above moderate-income levels. The existing development application is for a specific plan, which would guide development of the housing as well as a hotel and modifications to the existing clubhouse and golf facilities. An EIR is being prepared for the proposed development. Approval of a specific plan is a discretionary action by the City Council. A new development agreement between the developer and the property owner is expected to be a part of the development application that will ultimately be considered by the City.

Site 11 – Naval Weapons Station PCH & Seal Beach Boulevard (Zoning Not Applicable)

Location: Within the Seal Beach Naval Weapons Station, fronting Pacific Coast Highway and Seal Beach Boulevard.

Size: 22 acres

Current Use: Military use; the site is mostly vacant except for a concrete training pad and a 960 square foot prefabricated metal building used as a classroom.

Current Zoning: Military (M)

Reason For Selection: This site was selected in collaboration with the U.S. Navy (Navy), which successfully requested letters of interest to develop this site. The Navy's vision includes uses that would serve military personnel, including the potential for housing. The Navy has already initiated environmental review under the National Environmental Policy Act (NEPA). This site is generally undeveloped and is under singular ownership. The site is located in proximity to goods and services, including an elementary school. A mixed-use development, including housing, is generally anticipated, and assumes 150 residential units in a vertical and/or horizontal mixed-use development. These assumptions were arrived at in cooperation with Navy representatives. Because census data shows lower-income levels at the Seal Beach Naval Weapons Station currently, Table 4, below, assumes one-third of the units at lower-income, one-third at moderate-income, and one-third at above moderate-income. Despite being within the City, this is federal property; therefore, the City has no zoning authority over this area.

Site 12 – Water Storage Site (City Property Navy Base) (Zoning Not Applicable)

Location: Within the Seal Beach Naval Weapons Station, approximately 1,000 feet east of Seal Beach Boulevard, near the housing community off Anchor Way.

Size: 2.75 acres

Current Use: Water and equipment storage

Current Zoning: Military (M)

Reason For Selection: This parcel is owned by the City of Seal Beach. While the water storage facility is in active use and needs to remain in use, the balance of the site has comparably minimal utility. As a part of the Housing Element process, the City looked for opportunities to leverage property it owns. This parcel has capacity for greater utilization. Potential development of the site has been presented to Navy staff. Presently, the Navy is amenable to considering a project that could benefit both the Navy and the City, such as affordable housing for veterans.

Assumed Development Capacity: Depending on the exact size and configuration of the parcel, at least 65 units could be accommodated on a parcel of approximately two acres. Presumed to be an affordable housing development, 50 of the units are assumed to be at lower-income levels and 15 of the units at moderate-income, as shown in Table 4, below.

Site 13 – Main Street Specific Plan Area (Specific Plan Amendment Required)

Location: The Main Street Specific Plan area covers is the traditional downtown commercial core of Old Town, primarily defined by Main Street.

Size: 21 acres

Current Use: Mixed-use, including retail, offices, micro-scale manufacturing, and residential.

Current Zoning: Main Street Specific Plan (MSSP)

Reason For Selection: The area provides for a pedestrian-oriented mix of offices and retail uses with some residential units, which were built prior to adoption of the MSSP. Because Main Street is already developed as a pedestrian friendly area surrounded by residential neighborhoods, existing uses would not be an impediment to the expansion of residential units in this area.

Assumed Development Capacity: Although the area could accommodate a sizable number of residential units if the area is redeveloped, it is recognized that such redevelopment is very unlikely to occur during this planning period. Consolidation of lots under fragmented ownership would be challenging. A two-story height limit has been imposed in this area by voters, further affecting redevelopment opportunities. However, some parcels could accommodate one or more units towards the rear of the lot and/or above an existing single-story retail building. Space exists on some sites to develop units over open parking areas, as well. A physical inventory of the area revealed potential to accommodate 163 units if the City allows a minimum unit size standard **of** approximately 400 square feet. The proposed MSSP amendment would allow for residential uses on second stories or fronting rear alleys, such that Main Street itself remains a retail environment. At these small sizes, these uses would be ancillary, most akin to accessory dwelling units and, therefore, have income-levels have been categorized the same way, with 73 percent at lower-income levels and the balance at moderate-income, as shown in Table 4, below.

2.3.4 Housing Opportunity Sites Residential Development Potential

As shown in Table 4, below, redevelopment of underutilized sites and addition of ADUs could result in a total of approximately 205 new housing units, and potential rezone parcels could accommodate a total of approximately 1,628 new housing units. Based on this, by implementing the Project, the City would be able to provide 1,833 additional housing units, thereby accommodating the 2021-2029 RHNA allocation (1,243 new housing units) and a substantive buffer to demonstrate capacity for all income levels. The residential site development potential is shown in Table 4.

Table 4: Housing Opportunity Sites Residential Development Potential

Site No.	Site Name	Potential Density (Dwelling Units per Acre)	Lower-Income Dwelling Units	Moderate-Income Dwelling Units	Above Moderate-Income Dwelling Units	Total Units
Underutilized Sites						
1	1780 Pacific Coast Highway	20	--	5	--	5
2	Leisure World	30	74	38	38	150
3	Accessory Dwelling Units	N/A	36	14	--	50
Total Units from Underutilized Sites		--	*110*	*57*	*38*	*205*
Rezoned Sites (Unless Military)						
4	Accurate Storage	46	6	6	47	59
5	The Shops at Rossmoor	46	115	115	230	460
6	Old Ranch Town Center	46	59	59	121	239
7	Seal Beach Plaza	46	12	12	91	115
8	Seal Beach Center	46	15	15	90	120
9	99 Marina Drive	33	--	--	90	90
10	Old Ranch Country Club	--	--	--	167	167
11	Naval Weapons Station PCH	30	50	50	50	150

Site No.	Site Name	Potential Density (Dwelling Units per Acre)	Lower-Income Dwelling Units	Moderate-Income Dwelling Units	Above Moderate-Income Dwelling Units	Total Units
	& Seal Beach Blvd.					
12	Water Storage Site (City Property Navy Base)	33	50	15	--	65
13	Main Street	N/A	117	46	--	163
Total Units from Proposed Rezoning		*--*	*424*	*318*	*886*	*1,628*
Total Units including Underutilized Sites, ADUs, and Rezone			**534**	**375**	**924**	**1,833**

Source: City of Seal Beach 2021-2029 Housing Element Update, August 2023.

Notes: The current MU is only associated with LC/RMD. A new mixed-use zoning designation would need to be created to facilitate a density equivalent to RHD-46.

Potential units based on estimated development area.

The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories. In accordance with the “No Net Loss” provisions of SB 166, Housing Opportunity Sites inventory and site identification programs in the Housing Element Update includes sufficient sites to accommodate the City’s RHNA allocation.

2.4 SCHEDULE

Future residential development resulting from Project implementation would generally occur during the same time frame of the Housing Element Update, which is from 2021 through 2029.

2.5 DISCRETIONARY ACTIONS

Anticipated permits, approvals, and consultations include, but are not limited to, the actions described in Table 5 below.

Table 5: Agency Permits and Environmental Review Requirements

Agency	Permits and Other Approvals
City of Seal Beach	• Certification of CEQA document • Adoption of Mitigation Monitoring and Reporting Program • Adoption of the Findings of Fact and Statement of Overriding Considerations (if applicable) • Change of Zone / Specific Plan Amendment

Agency	Permits and Other Approvals
	• Seal Beach Municipal Code, Zoning Code Amendment

3.0 ENVIRONMENTAL SETTING, ANALYSIS, AND MITIGATION MEASURES

INTRODUCTION TO ENVIRONMENTAL ANALYSIS

As defined by Section 15063 of the CEQA Guidelines, an Initial Study is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an EIR, Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed Project.

According to Section 15065, an EIR is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

According to Section 15070(a), a Negative Declaration is deemed appropriate if the proposal would not result in any significant effect on the environment.

According to Section 15070(b), a Mitigated Negative Declaration is deemed appropriate if it is determined that though a proposal could result in a significant effect, mitigation measures are available to reduce these significant effects to insignificant levels.

This Initial Study has determined that the proposed applications will result in potentially significant environmental impacts and therefore, an EIR is deemed as the appropriate document to provide necessary environmental evaluations and clearance for the proposed Project.

This Initial Study and Notice of Preparation (NOP) are prepared in conformance with the CEQA of 1970, as amended (Public Resources Code [PRC], Section 21000 et. seq.); Section 15070 of the State Guidelines for Implementation of the CEQA of 1970, as amended (California Code of Regulations, Title 14, Chapter 3, Section 15000, et. seq.); applicable requirements of the County; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

The City is the Lead Agency, in accordance with Section 15050 of the CEQA Guidelines. The Lead Agency is the public agency which has the principal responsibility for approving the necessary environmental clearances and analyses for any project in the City.

Intended Uses of Initial Study and Notice of Preparation

This Initial Study and NOP are informational documents intended to inform decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed changes. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals. The Initial Study and NOP prepared for the Project will be circulated for a period of 30 days for public and agency review and comments, to facilitate preparation of the EIR.

Environmental Assessment Methodology

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

☒ Aesthetics	☒ Greenhouse Gases	☒ Public Services
☐ Agricultural and Forestry Resources	☒ Hazards and Hazardous Materials	☒ Recreation
☒ Air Quality	☒ Hydrology and Water Quality	☒ Transportation
☒ Biological Resources	☒ Land Use and Planning	☒ Tribal Cultural Resources
☒ Cultural Resources	☐ Mineral Resources	☒ Utilities and Service Systems
☒ Energy Resources	☒ Noise	☐ Wildfires
☒ Geology and Soils	☒ Population and Housing	☒ Mandatory Findings of Significance

Determination

Based on this initial evaluation:

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

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

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

☐ I find that the proposed project MAY have a "Potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An

ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

11/14/2023

Signature Date
Alexa Smittle, Community Development Director
City of Seal Beach

3.1 AESTHETICS

AESTHETICS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 20199:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public Views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, the potential of the project to conflict with applicable zoning and other regulations governing scenic quality?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Environmental Setting

As described in the City of Seal Beach 2003 General Plan (General Plan), visual resources in the City include the Pacific Ocean coastal waterfront, including beaches, the shoreline, wetlands and marshlands. There are approximately two miles of beachfront shoreline in the City, which is considered to be of regional significance for passive and active recreational activities. As the Project implementation would result in future development and more dense residential uses in the vicinity of the coastal waterfront, potential impacts to aesthetics are evaluated below.

3.1.2 Environmental Impact Analysis

a) Would the project have a substantial adverse effect on a scenic vista?

Finding: Less than Significant Impact

Scenic vistas generally include extensive panoramic views of natural features, unusual terrain, or unique urban or historic features, for which the field of view can be wide and extend into the distance, and focal views that focus on a particular object, scene or feature of interest. The General Plan does not identify or designate specific scenic resources; nor are there any specific policies related preservation of scenic resources. However, several of the Housing Opportunity Sites are in proximity to the Pacific Ocean and open space areas, which can be considered scenic vistas. A substantial adverse effect on a scenic vista would occur where the majority of an existing view would be blocked or substantially interrupted.

Individual developments that would be developed on the identified Housing Opportunity Sites under the Housing Element Update would be dispersed throughout the City and would be located in areas that are highly urbanized with surrounding existing developments that already limit potential views to scenic resources. Individual developments developed under the Housing Element Update would be required to be designed and constructed in accordance with the development standards of the applicable zoning district, including building heights, setbacks, and appropriate placement of buildings. Adherence to the City's design guidelines and standards would minimize and reduce potential impacts to existing views and scenic resources. Implementation of the Project would not result in substantial adverse effect on a scenic vista and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

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

Finding: No Impact

According to the California State Scenic Highway Project, which is administered by the California Department of Transportation (Caltrans) (Caltrans 2022), there are no state-designated scenic highways located in the City; nor are there any City-designated scenic highways or roadways identified by the City in its General Plan. The closest state-designated scenic highway is State Route (SR) 91, between the city limits of Anaheim and SR 55 to the south, and it is the only state-designated scenic highway within the entire County. The closest Housing Opportunity Site is approximately 14 miles southwest of this portion of SR 91. Implementation of the Project would not occur within the vicinity of state scenic highways and would not substantially damage scenic resources, such as trees, rock outcroppings or historic buildings, within a state scenic highway, and there would be no impact in this regard. As such this topic does not require further evaluation in the EIR.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public Views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, the potential of the project to conflict with applicable zoning and other regulations governing scenic quality?

Finding: Potentially Significant Impact

Implementation of the Housing Element Update would result in the identification of parcels located within the City that have the potential to be developed or redeveloped to accommodate new housing developments and help the City meet its RHNA allocation. Additionally, implementation of the Housing Element Update would result in the creation of a new zoning district that would be applied to five of the identified Housing Opportunity Sites and one site identified as a Housing Opportunity Site would be rezoned to an existing zoning district to accommodate housing. As such, future residential development associated with Project implementation would occur within urbanized areas of the City. Although future Project implementation would not include development on previously undeveloped areas that are not surrounded by urbanization, some of the Housing Opportunity Sites proposed for future residential

development could affect areas that are along the City's interface with coastal or open space areas. Additionally, future Project implementation could include the development of new infrastructure which may have the have the potential to alter the existing visual character of the area. Therefore, this potentially significant impact will be further analyzed in the EIR.

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

Finding: Less Than Significant Impact

Typical current sources of light and glare throughout the City include interior and exterior building lighting, illuminated signage, ballfield lighting, lighting from vehicles along existing roadways, and other ambient lighting present in urbanized settings. Sources of glare include glass or metallic surfaces or finishes, on structures and even off of vehicle windshields, that could cause glare effects. Some of the more suburban, lower density, or open space areas of the City have less sources of illumination, lighting and glare. Implementation of the proposed Project would occur in areas designated for redevelopment and would allow for development of currently underutilized parcels in the City. Many of the Housing Opportunity Sites are located within currently illuminated areas.

While the increased residential density associated with Project implementation would likely introduce new sources of light and glare in their immediate surroundings, all new development would be required to comply City guidelines and Municipal Code requirements, including Chapter 11.4.10.020, related to exterior security lighting, exterior fixture compatibility, outdoor illumination levels, minimization of light spillover and glare, and light standard heights (City of Seal Beach 2021).

As future residential development resulting from Project implementation would adhere to the provisions of the Municipal Code and all other applicable regulations related to light and glare, the increased residential density proposed by the Project would not create substantial new sources of light or glare which would adversely affect views in the area. Therefore, this impact would be less than significant, and this topic does not require further evaluation in the EIR.

3.2 AGRICULTURAL AND FORESTRY RESOURCES

AGRICULTURAL AND FORESTRY RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Environmental Setting

As outlined in the Open Space/Recreation/Conservation Element of the General Plan, open space land is defined as any parcel of land or water that is essentially unimproved and is devoted to open space use. Land which is used as managed production of resources is protected under the Element. Within the City, certain parcels of land principally within the Seal Beach Naval Weapons Station are being used for agricultural production. Approximately 2,000 acres of the Seal Beach Naval Weapons Station are currently used for the production of staple vegetable crops, such as beets, carrots, and corn (City of Seal Beach 2003). Additionally, according to the Department of Conservation's (DOC's) Farmland Mapping and Monitoring Program (FMMP), prime and unique farmland are identified within the City's boundaries specifically within the Seal Beach Naval Weapons Station. The other portions of the City are mapped as Urban and Built-Up Land or Other (DOC 2023a). FMMP defines Other Lands as Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land (DOC 2023a). According to the California Department of Forestry and Fire Production (CAL FIRE), there are no Timber Production Zones designations or Timber Harvesting Plans within the City (CAL FIRE 2023b).

3.2.2 Environmental Impact Analysis

a) Would the project Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Finding: No Impact

As mentioned above, the Prime and Unique Farmland categories are mapped in areas of the City; however, these mapped areas are limited to the Seal Beach Naval Weapons Station property. Housing Opportunity Sites 11 and 12 are located within the Seal Beach Naval Weapons Station; however, the portions of the Seal Beach Naval Weapons Station property where Sites 11 and 12 are located are mapped as Urban and Built-Up Land and Other Land on the FMMP. No other proposed Housing Opportunity Sites were identified on the FMMP as being located on Prime, Unique, or Farmland of Statewide Importance. Implementation of the Project does not have the potential to cause significant impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, nor does it have the potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, there would be no impact, and this topic does not require further evaluation in the EIR.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Finding: No Impact

According to the City's Zoning Map Index and Orange County's Public Works Land Records Map, none of the proposed Housing Opportunity Sites are under a Williamson Contract and therefore, there would be no impact related to conflicting with a Williamson Act contract. (City of Seal Beach 2013; Orange County 2023).

The City's Zoning Code does not include any agricultural land use designations. However, some of the City's commercial, industrial, and open space zoning designation allow agricultural uses onsite. Agricultral uses allowed in the City are mostly limited to nursery uses, with crop raising allowed under one open space zoning designation. As the City does not have any zoning designations that are specifically for agricultural uses, implementation of the Project would not result in conflicts with existing zoning for agricultural use. Additionally, none of the identified Housing Opportunity Sites that is not proposed for rezoning are under existing zoning designation that allow agricultural uses onsite. The identified Housing Opportunity Sites that are proposed for rezoning would be rezoned to residential zoning districts to allow for additional housing opportunities in the City and would not conflict with any agricultural zoned parcels. Implementation of the Project does not have the potential conflict with any existing zoning for agricultural use. As such, there would be no impact, and this topic does not require further evaluation in the EIR.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

Finding: No Impact

As discussed above, there are no designated Timber Production Zones or agriculturally designated parcels within the Housing Opportunity Sites. Implementation of the Project does not have the potential to conflict with existing zoning for forest land or timberland zoned for Timberland Production. As such, there would be no impact, and this topic does not require further evaluation in the EIR.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

Finding: No Impact

As discussed above, the parcels proposed for rezoning have various designations, and there are no forest lands located on or near the Project area. Therefore, development of the Project would not result in the loss of forest land or conversion of forest land to non-forest uses, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Finding: No Impact

Development of the Project would require rezoning of the Project area to accommodate low- and moderate-income residential uses in areas throughout the City. As discussed above, none of the Housing Opportunity Sites are zoned for agricultural use, and important farmland was not identified amongst the proposed Housing Opportunity Sites. Although the Project involves rezoning to accommodate additional housing needs, the Project would not involve rezoning from agricultural to non-agricultural use or conversion of forest land to non-forest use. As such, there would be no impact, and this topic does not require further evaluation in the EIR.

3.3 AIR QUALITY

AIR QUALITY Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☒	☐	☐	☐

3.3.1 Environmental Setting

The City is within the South Coast Air Basin (SoCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernadino Counties. SoCAB is designated nonattainment for ozone (O_3) and fine inhalable particulate matter ($PM_{2.5}$) under the California and National Ambient Air Quality Standards (AAQS), nonattainment for lead (Los Angeles County only) under the National AAQS, and nonattainment for coarse inhalable particulate matter (PM_{10}) under the California AAQS (City of Corona 2019).

The South Coast Air Quality Management District (SCAQMD) is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with SCAG to attain the National AAQS. In March 2017, SCAQMD adopted the 2016 AQMP which is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between California Air Resources Board (CARB) and the Environmental Protection Agency (EPA). SCAQMD's 2016 AQMP forecasts that the SoCAB will need to increase oxides of nitrogen (NOx) reductions by 45 percent additional reductions above existing regulations for the 2023 ozone standard and 55 percent additional reductions above existing regulations to meet the 2031 ozone standard.

3.3.2 Environmental Impact Analysis

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Finding: Potentially Significant Impact

As result of increased development and densification associated with future Project implementation, emissions would be generated during both construction and operation of individual developments. Project

implementation has the potential to cause significant environmental effects through conflict or obstruction of the applicable air quality plans. Therefore, these impacts will be analyzed further in the EIR.

b) Would the project 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?

Finding: Potentially Significant Impact

The proposed Housing Opportunity Sites are located in a non-attainment area for National AAQS and California AAQS. As such, Project implementation has the potential to cause significant environmental effects through a potential cumulatively considerable net increase of particulate matter during construction. Therefore, this potentially significant impact will be further analyzed in the EIR.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Finding: Potentially Significant Impact

While it is unlikely that sensitive receptors could be exposed to substantial pollutant concentrations, due to construction or operation associated with future Project implementation, there is the potential to cause significant environmental effects if such exposure were to occur. Implementation of the proposed Project would include the development and operation of new and more intense land uses that could generate new sources of toxic air contaminants (TACs) in the City, from both stationary and mobile sources. As such, this potentially significant impact will be further analyzed in the EIR.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Finding: Potentially Significant Impact

Project implementation could cause the generation of new sources of odors or other emissions. Generally, residential land uses do not generate odors that could affect a substantial number of people, because they are not considered a typical odor-producing source, such as a waste treatment facility or an industrial operation. While it is unlikely that substantial numbers of people could be adversely affected by odors due to future construction or implementation of the proposed Project, there is the potential for the Project to result in other emissions. Therefore, these potentially significant impacts will be further analyzed in the EIR.

3.4 BIOLOGICAL RESOURCES

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

3.4.1 Environmental Setting

The western edge of the City includes shoreline, beaches and marinas which support areas of biological diversity. The Seal Beach National Wildlife Refuge (NWR), established in 1972, is a protected wetland and marsh area located at the Seal Beach Naval Weapons Station. It includes habitats that are essential to migratory birds of the Pacific Flyway, including federal- and state-listed endangered species. The Seal Beach NWR is under a Management Plan to 1) preserve habitat necessary for the perpetuation of two endangered species, the light-footed Ridgway's rail and the California least tern, and 2) preservation of habitat used by migratory waterfowl, shorebirds and other waterbirds (USFWS 2023a). Other species of concern found in the Seal Beach NWR include the Eastern Pacific green sea turtle, Belding's savannah sparrow, and other year-round species including ospreys, peregrine falcons, red-tailed hawks, great blue herons, great egrets, snowy egrets, brown pelicans, crabs, and snails. There are a number of winter migration species as well, including Canada, snow and Ross' geese, various duck species, black-necked stilt, American avocet, black-bellied plover, and least and western sandpipers. Additionally, many

California native wildflowers and shrubs occur in this area. Within the aquatic reaches of the wetlands, there can be small rays and sharks along the protected waters of the Seal Beach NWR (USFWS 2023b).

In addition to the Seal Beach NWR, another area with potential sensitivity for biological resources is approximately 100-acres of the Hellman Ranch Specific Plan area, which has been deed-restricted for future sale to a public agency for purposes of wetlands restoration, open space, and environmental education purposes. An adjacent approximately 50-acre oil production property has been similarly restricted (City of Seal Beach 2003). Numerous other parks, golf courses, greenbelts and open space corridors provide potential habitat areas for various plant, insect, bird, reptile and animal species.

Due to its location along the shore of the Pacific Ocean, development and certain land use policies within the Coastal Zone (all areas south of Westminster Boulevard) are also subject to review by the California Coastal Commission (CCC) for consistency with the California Coastal Act of 1976. The City is in the process of developing a Local Coastal Program (LCP) which will implement the Coastal Act at the local level, and reduce the need for direct project review from the Coastal Commission.

3.4.2 Environmental Impact Analysis

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

Finding: Potentially Significant Impact

The Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, does not directly result in development. Certification of the Project itself would not lead to alteration or modification biological resources or habitats, and before any development or redevelopment activities could occur on Housing Opportunity Sites, they would be required to be analyzed for conformance with the requirements of CEQA. While some of the Project's identified Housing Opportunity Sites are located within highly urbanized areas, such as parking lots of existing commercial centers, other Housing Opportunity Sites are located in proximity to or within areas that are not developed or near areas of potential sensitivity for biological resources, such as Housing Opportunity Sites 1, 9, 10, 11 and 12. As such, future implementation of the Project may have a substantial adverse effect, either directly or indirectly, on special-status species. Therefore, these potentially significant impacts will be further analyzed in the EIR.

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

Finding: Potentially Significant Impact

As discussed above, portions of the City are located within the jurisdiction of the CCC. Housing Opportunity Sites 1, 4, 8, 9, 11, 12, and 13 are located within CCC jurisdiction, while Housing Opportunity

Sites 2 and 7 border the CCC jurisdictional boundaries (City of Seal Beach 2023b). Housing Opportunity Site 11 borders the Seal Beach NWR. As such, future implementation of the Project may have a substantial adverse effect on a riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations. Therefore, these potentially significant impacts will be further analyzed in the EIR.

c) Would the project 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?

Finding: Potentially Significant Impact

As discussed above, the City has identified areas where wetlands and other sensitive marsh and coastal features are present, including within the Hellman Ranch Specific Plan area, the Seal Beach NWR, and the beaches and shorelines along the western border of the City. Future residential development resulting from Project implementation would be required to minimize effects to wetlands, marshes and coastal areas, in compliance with the CCC and all other applicable requirements; however, several Housing Opportunity Sites may be located within proximity or within such areas and may have a substantial adverse effect on state or federally protected wetlands. Therefore, these potentially significant impacts will be further analyzed in the EIR.

d) Would the project 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?

Finding: Potentially Significant Impact

As described above, the City and County have identified areas where native resident or migratory fish or wildlife species regularly occur, including the Seal Beach NWR. Housing Opportunity Sites 11 and 12 are in the vicinity of the Seal Beach NWR, an important stop for migratory species along the Pacific Flyway, and Housing Opportunity Site 10 is located on a golf course which may be used by migratory species. Half of the Housing Opportunity Sites are located within the CCC jurisdiction and/or in proximity to the shoreline and beaches. As future residential development resulting from Project implementation would occur in proximity of areas, potential impacts to migratory species may occur. Therefore, these potentially significant impacts will be further analyzed in the EIR.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Finding: Less Than Significant Impact

Future residential development on identified Housing Opportunity Sites resulting from Project implementation may require the removal of trees, including street trees. All resulting development would be required to comply with the City Municipal Code Section 9.40, Trees, which includes limitations and permit requirements related to the removal of trees, particularly eucalyptus trees (City of Seal Beach

2023e). Future residential development resulting from Project implementation would be required to abide by this regulation and ensure the Project does not lead to removal of designated landmark trees. Therefore, future residential development resulting from Project implementation would not conflict with local policies and ordinances protecting biological resources, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Finding: Potentially Significant Impact

This Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, it does not directly result in development. Certification of the Project itself would not lead to alteration or modification biological resources or habitats, and before any development or redevelopment activities could occur on Housing Opportunity Sites, they would be required to be analyzed for conformance with the requirements of CEQA. In addition to being located under CCC jurisdiction, the City is also included in the Orange County Transportation Authority (OCTA) Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) (CDFW 2023). Protected natural communities under the OCTA NCCP/HCP include California walnut woodland, canyon live oak ravine forest, Riversidean alluvial fan scrub, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern mixed riparian forest, southern will scrub and valley needlegrass grassland (CDFW 2013). Further evaluation is required to confirm that there would be no conflicts with these or other plans. Therefore, these potentially significant impacts will be further analyzed in the EIR.

3.5 CULTURAL RESOURCES

CULTURAL and TRIBAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

3.5.1 Environmental Setting

For over 10,000 years, the Seal Beach area, including Anaheim Bay and the San Gabriel estuary, have supported Native American people and their cultures, with evidence of the City's past found in the archaeological record and remaining historical sites; however, few archaeological sites remain in the City, primarily due to development along the coastline. As provided in the City's General Plan Cultural Resources Element, prehistoric occupation of the Seal Beach area was associated with the Gabrielino Native Americans, with the city on the southern end of the extensive tribal territory which extended into Ventura County to the north and San Bernardino County to the east (City of Seal Beach 2003). It is also understood that the Juaneño Native Americans were also present in the Seal Beach area, as the neighboring tribe to the south.

More specifically, the Gabrielino community of Motuuchey was located in today's Old Town area, and archaeological resources were primarily located on the Seal Beach Naval Weapons Station, Hellman Ranch and potentially on a Boeing property. In the 1780s, the historic settlement of the city began with the assignment of a 300,000-acre land grant of Rancho Los Alamitos, which supported agriculture and cattle grazing due to proximity to the Santa Ana River. The Mexican War of 1846 to 1848 marked the end of the Rancho era and Mexican governance, and in 1864, Rancho Los Alamitos was purchased by Jotham Bixby and German immigrants who formed the Anaheim agricultural colony. Anaheim Landing was the port created to facilitate goods movement in and out of the region and was the first port in Orange County.

The area transitioned into the resort community of "Bay City," in 1903, and was connected to Los Angeles with the "Red Cars" of the Pacific Electric Railroad. Today, an historic Red Car can be found on the old Pacific Electric right-of-way. In 1906, the longest pier south of San Francisco was constructed, and it included a bath house, dancing pavilion, roller coaster and more. With a population of 250, Bay City was incorporated in 1915, becoming known as Seal Beach, and the town was a successful resort community by the 1920s. A flurry of growth and development ended with the Great Depression, and in 1939, hurricane winds cut the pier in half. World War II brought a second boom of construction to the City, as military facilities were placed throughout the City and the Seal Beach Naval Weapons Station was built.

The development of Leisure World began in the late 1950s. With a current population of over 24,000, the City remains a tourist destination.

Historic resources in the City include the Old City Hall, which is on the National Register of Historic Places. The early port of Anaheim Landing is recognized for its historical significance by the State of California.

The City's General Plan Cultural Resources Element includes the following goal and policies related to cultural resources (City of Seal Beach 2003):

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 resource 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 proposals for potential impacts to significant archaeological resources pursuant to §15064.5 of the California Environmental Quality Act (CEQA). Require a study conducted by a professional archaeologist for all development proposals located in areas known to be sensitive to cultural resources.

3.5.2 Environmental Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource as identified in Section 15064.5?

Finding: Potentially Significant Impact

This Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing, and therefore, it does not directly result in development. Certification of the Project itself would not lead to demolition or alteration of any historic resources. Furthermore, future development Projects would be required to comply with the City's General Plan Cultural Resources policies related to preservation of resources. As it is unknown if Housing Opportunity Sites may contain historical resources, surveys will be conducted to determine and assess potential impacts to such resources. Therefore, this potentially significant impact will be analyzed in the EIR.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Finding: Potentially Significant Impact

As discussed above, approval of the proposed Project itself would not directly affect archaeological resources as the Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, does not directly result in development. However, Project implementation could indirectly affect archaeological resources, as it would allow for future development of the sites. Grading and construction activities of parcels identified for the Project could require earth moving activities that could potentially unearth previously unrecorded resources.

According to the General Plan Cultural Resources Element, there are very few archaeological sites in the City. Archaeological sites are protected by a wide variety of state policies and regulations under the California Public Resources Code, and cultural resources receive protection under both the California Public Resources Code and CEQA. Long term implementation of the Project could allow development including construction activities and grading in areas with undiscovered archaeological resources. Therefore, the Project could result in potential unearthing of previously unknown and unrecorded archaeological resources and result in significant impacts. The Project would be required to implement General Plan Cultural Resources Element policies related to reducing impacts of potential development on cultural resources and would be required to comply with existing laws and regulations pertaining to archaeological and cultural resources. As it is unknown if Housing Opportunity Sites may contain unknown archaeological resources, surveys will be conducted to determine and assess potential impacts to such resources. Therefore, this potentially significant impact will be analyzed in the EIR.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Finding: Less Than Significant Impact

Although unlikely, future Project construction activities could result in unknown human remains being unearthed during earth moving activities. California Health and Safety Code, Section 7050.5; CEQA Section 15064.5; and PRC Section 5097.98, mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. California Health and Safety Code, Section 7050.5, requires that if human remains are discovered on a project site, disturbance of the site shall remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the PRC. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. Although construction activities associated with development of the Project could result in the discovery of human remains, compliance

with existing laws would ensure that significant impacts to human remains would not occur. Therefore, compliance with existing laws and regulations would ensure that future residential development resulting from Project implementation does not disturb any human remains, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.6 ENERGY RESOURCES

ENERGY RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☒	☐	☐	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1 Environmental Setting

Southern California Edison (SCE) is the provider of electrical services to most of the City. Total electricity consumption in SCE's service area, which spans much of southern California from Orange and Riverside Counties on the south to Santa Barbara County on the west to Mono County to the north, in gigawatt-hours (GWh) was approximately 81,128 GWh in 2021 (SCE 2019; CEC 2023a). Sources of electricity sold by SCE in 2018 were:

- 36 percent renewable, consisting mostly of solar and wind
- 4 percent large hydroelectric
- 17 percent natural gas
- 6 percent nuclear
- 37 percent unspecified sources (CEC 2019)

Southern California Gas Company (SoCalGas) provides natural gas services to the City and maintains transmission and distribution lines through the City. The service area of SoCalGas spans much of the southern half of California, from Imperial County in the southeast, to San Luis Obispo County in the northwest, to part of Fresno County in the north, and to Riverside County and most of San Bernardino County in the east (SoCalGas 2023). Total natural gas consumption in Orange County in 2018 was 575.1 million therms, with 339 million therms used by residential uses (CEC 2023b).

3.6.2 Environmental Impact Analysis

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Finding: Potentially Significant Impact

Construction and operation of the proposed Project would result in an increased intensity of uses and more residential units. These additional uses would consume more energy which could result in a potentially significant environmental impact. Therefore, this potentially significant impact will be further analyzed in the EIR.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Finding: Less Than Significant Impact

California's electricity grid is transitioning to renewable energy under the California Renewables Portfolio Standards (RPS) Program. In general, the state has RPS requirements of 33 percent renewable energy by 2020, 40 percent by 2024, 50 percent by 2026, 60 percent by 2030, and 100 percent by 2045 (California Public Utilities Commission). The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as SCE and SoCalGas. As SCE and SoCalGas are required to meet the RPS goals for 2030 to provide at least 60 percent clean energy to its customers, future residential development resulting from Project implementation would be consistent with statewide goals.

The Project is intended to be consistent with the implementing General Plan Housing Element Update, and individual development projects constructed as a result of Project implementation would be required to comply with the current and future iterations the Building Energy Efficiency Standards and the California Green Building Standards Code. Additionally, future residential development resulting from Project implementation would be required to implement Housing Element Update policies which support energy conservation opportunities, including Title 24 energy efficiency standards and the statewide goal of transitioning the electricity grid to renewable sources. Furthermore, the Housing Element Update includes the following goal and policies related to energy efficiency that would be applicable to the proposed Project:

Goal 6: Encourage more efficient energy use in residential developments.

- Policy 6a: Promote energy conservation through "green building" techniques that reduce water consumption, improve energy efficiency and lessen a building's overall environmental impact.
- Policy 6b: Promote "smart growth" principles by encouraging compact development in locations that provide opportunities for reduced vehicle trips.

Therefore, with implementation of Housing Element Update policies and compliance with existing standards and regulations related to renewable energy, future residential development resulting from Project implementation would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.7 GEOLOGY AND SOILS

GEOLOGY AND SOILS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on strata 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?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☒	☐	☐	☐

3.7.1 Environmental Setting

The City is located in the Los Angeles coastal plain in the Peninsular Ranges of Southern California. These Ranges are made up of hills and ranges with intervening, long, and narrow valleys that trend northwest. The City is in a zone of deformation extending from the foot of the Santa Monica Mountains as far southeasterly as Newport Beach, called the Newport-Inglewood belt. The Newport-Inglewood belt is a surface expression of the Newport-Inglewood Fault zone (City of Seal Beach 2003).

The majority of the City is located within an alluvial plan that extends southward from the convergence of Coyote Creek and San Gabriel River. The two channels drain from the northeast and north, and the combined flow reaches the sea at Alamitos Gap. Elevations within the City vary from approximately sea level to 60 feet above mean sea level (amsl) at Landing Hill (City of Seal Beach 2003).

3.7.2 Environmental Impact Analysis

a) Would the project 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? Refer to Division of Mines and Geology Special Publication 42?

Finding: Less Than Significant Impact

The entire City, including the Housing Opportunity Sites, are located in the seismically active Southern California region. An active fault is defined by the State Mining and Geology Board as one that has had surface displacement within Holocene time (about the last 11,000 years). The currently designated Newport-Inglewood Alquist-Priolo Earthquake Fault Zone traverses through the City. Within this fault zone is the Seal Beach Fault (CGS 2023). All except one of the Housing Opportunity Sites are located to the north and south of this zone and not within it. Housing Opportunity Site 12 is traversed by an earthquake fault and therefore, is located within an earthquake fault zone.

Mandatory compliance with existing regulations, including preparation and submittal of geotechnical studies and reports prior to approval of grading and redevelopment plans, would ensure that potential surface fault rupture impacts would be less than significant. Additionally, the future residential development resulting from Project implementation would be required to comply with the following General Plan policies related to geology and geologic hazards (City of Seal Beach 2003):

- 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 3b: Require geological surveys to be prepared after onsite borings or subsurface explorations at the time subdivisions are submitted to the City for approval.
- 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 3e: Restrict development projects that will cause hazardous geologic conditions or that will expose existing developments to an unacceptable level of risk until the causative factors are mitigated.
- Policy 3f: Require independent review of the geologic and soils reports as appropriate.
- Policy 3g: File and reference copies of pertinent site-specific geologic information and index the information in the City's Geographic Information System.
- Policy 3h: Provide ongoing maintenance and inspection of all public drainage facilities and eliminate or mitigate uncontrolled storm drain flow on hillsides or bluffs.
- Policy 3i: Require the use of drought-resistant vegetation with deep root systems where appropriate for safety reasons in new development projects to reduce the potential for overirrigation. Encourage the use of drought-resistant vegetation throughout the City through public education efforts.
- 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 incorporates the latest accepted standards for seismic design that reflect advances in technology and understanding of hazards.
- Policy 3k: Prohibit the location of new essential facilities such as hospitals, fire and police stations, emergency centers and water tanks in geologically hazardous areas unless it is determined that there is no feasible alternative and the hazard is adequately mitigated.
- Policy 3l: Require that earthquake survival and efficient post-disaster functioning be a primary concern in the siting, design and construction standards for new essential facilities.
- Policy 3m: Evaluate the long-term risks and their associated costs versus the costs of relocation when major improvements to existing essential facilities are proposed and the facilities are located in known hazardous areas. Relocate the facility if the analysis indicates this is more cost effective in the long term.
- 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.
- Policy 3p: Identify the effects of the most probable seismic event (Modified Mercalli intensity value VIII or more) on the infrastructure within the City.
- Policy 3q: Incorporate information on the probable seismic event impacts on infrastructure into the development of capital improvement programs so as to upgrade the survivability of the infrastructure.

- Policy 3r: Work with governmental agencies (i.e., Caltrans and Water Districts) and the public utility companies to identify and promote effective mitigation of the effects of the most probable seismic event on the infrastructure which supports the City of Seal Beach
- Policy 3s: Prepare a Geological Hazards Map based on a study of the geological formations and hazards of the entire City, employing a format compatible with the City's GIS mapping system.
- Policy 3t: Integrate the latest information about earthquake survivability into the City's public safety education program. Encourage the retrofitting of every home within Seal Beach for earthquake survival, especially in the area of adequate anchoring (tie-down) of the homes to their foundations.

As there are no known active faults crossing the majority of the proposed Housing Opportunity Sites and majority of the sites are not located within an Earthquake Fault Zone, ground rupture is unlikely. However, Housing Opportunity Site 12 is located within an Earthquake Fault Zone and, as such, there is some potential for ground rupture to occur. Potential impacts to new developments facilitated by implementation of the Project would be subject to individual CEQA analysis on a project level to analyze potential impacts related to seismic hazards. All future housing developments facilitated by the Project would be required to demonstrate conformance with federal, state, and local seismic design guidelines and requirements. Individual developments would be required to prepare and submit geotechnical studies and reports prior to approval of grading and redevelopment plans and would be required to implement project-specific mitigation measures to reduce any potential impacts. Therefore, compliance with existing regulations and preparation of seismicity reports would ensure that future residential development resulting from Project implementation would have a less than significant impact related to rupture of a known earthquake fault. As such, this impact does not require further evaluation in the EIR.

ii. Strong seismic ground shaking?

Finding: Less Than Significant Impact

As with most of California, there is a significant potential for seismic ground shaking to occur. The Seal Beach Fault is considered capable of causing significant ground shaking in the City, but the recurrence interval is believed longer than for more distant, strike-slip faults. Other large earthquakes have historically occurred in the Los Angeles and Long Beach areas, and many earthquakes of low magnitude occur every year.

An earthquake of moderate- to high-magnitude generated within the Los Angeles or Long Beach area could cause considerable ground shaking at the Housing Opportunity Sites, similar to that which has occurred in the past. To mitigate the effects of strong seismic ground shaking, structures should be designed using sound engineering judgment and the 2022 California Building Code (CBC) requirements, at a minimum.

While there is no way to avoid ground shaking and earthquake hazards, compliance with CBC requirements, including specific provisions for seismic design, would mitigate and minimize the effects of earthquakes on new future construction. The Project would require that future residential development be

designed in accordance with the CBC requirements and statewide regulations to minimize the effects of ground shaking to the greatest degree feasible. Therefore, future residential development resulting from Project implementation would have a less than significant impact related to seismic ground shaking. As such, this impact does not require further evaluation in the EIR.

iii. Seismic-related ground failure, including liquefaction?

Finding: Less Than Significant Impact

Liquefaction generally occurs as a result of strong ground shaking in areas where granular sediment or fill material either contains, or is located immediately above, high moisture content. The ground shaking transforms the material from a solid state to a temporarily liquid state and can result in settlement, flow failure, and lateral spreading. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may sink or suffer major structural damage. These geological and groundwater conditions are prevalent in the City and surrounding areas. Housing Opportunity Sites 2, 3, 5, 6, 7, 9, 10, and 11 are within a liquefaction zone, while Housing Opportunity Sites 1, 4, 8, 12 and 13 do not appear to be within a liquefaction zone (DOC 2023). Although a majority of the Housing Opportunity Sites are within a liquefaction zone, the Project area is developed with existing commercial, residential, and industrial uses, all of which required proper soil compaction and grading prior to construction, consistent with mandatory regulations and requirements. The Project would comply with the General Plan policies mentioned above and would be constructed in accordance with CBC requirements and all applicable regulations pertaining to safety and stability related to seismic activity. Therefore, future residential development resulting from Project implementation would have a less than significant impact from seismic related ground failure. As such, this impact does not require further evaluation in the EIR.

iv. Landslides?

Finding: Less Than Significant Impact

Landslides are the downward and outward movements of slope-forming materials including rock, soil, artificial fill, or combinations of such materials under the direct influence of gravity. The Housing Opportunity Sites are at sea level, and there are no hills or mountains adjacent to them. There are no known landslides near the Housing Opportunity Sites, nor are they located in an identified landslide zone (DOC 2023). Future residential development resulting from Project implementation would involve grading and earthwork; however, mandatory compliance with existing regulations, including the preparation and submission of soil engineering studies, geotechnical evaluations, and seismicity reports for new developments would ensure that potential landslide impacts would remain less than significant. Additionally, the Project would be required to comply with applicable policies and CBC design standards related to seismic and geologic hazards. Therefore, future residential development resulting from Project implementation would not cause substantial adverse effects related to landslides, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Finding: Less Than Significant Impact

During Project implementation and construction, onsite soils can be prone to erosion during construction activities, such as site grading. To reduce the potential for erosion during construction activities, a Storm Water Pollution Prevention Plan (SWPPP), which specifies best management practices (BMPs) for temporary erosion control measures, would be required. Standard erosion control measures would be implemented as part of the SWPPP to minimize the risk of erosion or sedimentation during construction. Additionally, the SWPPP is required to include an erosion control plan that describes measures such as phased grading, limiting areas of disturbance, and diverting runoff from disturbed areas. Construction of future residential development resulting from Project implementation would require the preparation and implementation of a SWPPP and erosion control plans to minimize soil erosion impacts that could result. Therefore, the Project would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

c) Would the project be located on 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?

Finding: Less Than Significant Impact

The General Plan identifies that the City's Grading and Stormwater Pollution Prevention Implementation Manual and Chapter 9.50.020 of the City's Municipal Code require a geotechnical report to be prepared and filed for all projects in which a grading permit is required. Compliance with this requirement would minimize impact resulting from unstable geologic or soil conditions. The recommendations included in the geotechnical reports are required to be included in the grading plans and implemented during future Project implementation and development. Furthermore, compliance with CBC design requirements and additional review and approval of grading plans would minimize impacts resulting from unstable geologic or soil conditions. Compliance with existing regulations, including the preparation and implementation of site-specific soil engineering and geotechnical evaluations, would reduce potential impacts to less than significant levels. Therefore, future residential development resulting from Project implementation would not be located on a geologic unit or soil that is unstable or that would become unstable, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

d) Would the project 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?

Finding: Less Than Significant Impact

Future residential development resulting from Project implementation would be required to prepare and submit a soil engineering report, and geotechnical evaluations as required under Chapter 9.50.020 of the Municipal Code. Recommendations in the geotechnical reports are required to be implemented into grading plans and during construction activities related to future residential development resulting from Project implementations. Additionally, future residential development resulting from Project

implementation would be required to comply with CBC and grading regulations that would minimize the risks associated with development proposed in areas containing expansive soils. With implementation of recommendations included in geotechnical reports and adherence to existing regulations related to development in areas with expansive soils, impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

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

Finding: No Impact

The General Plan identifies the City as completely "built out" and necessary infrastructure such as water, wastewater, and drainage systems are fully constructed to withstand City system demands. Therefore, future residential development resulting from Project implementation would not require the use of septic tanks or alternative waste disposal systems, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Finding: Potentially Significant Impact

As discussed above, approval of the proposed Project by itself would not directly affect paleontological resources, as the Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and, therefore, does not directly result in development. However, future residential development resulting from Project implementation could indirectly affect paleontological resources, as it would allow for future development of the sites. Grading and construction activities on Housing Opportunity Sites identified for future residential development could require earth moving activities that could potentially unearth previously unrecorded resources and result in significant impacts. Future residential development resulting from Project implementation would be required to implement General Plan Cultural Resources Element policies related to reducing impacts of potential development on cultural resources and would be required to comply with existing laws and regulations pertaining to historical, archaeological and paleontological resources. As it is unknown if Housing Opportunity Sites may contain unknown paleontological resources, surveys will be conducted to determine and assess potential impacts to such resources. Therefore, this potentially significant impact will be analyzed in the EIR.

3.8 GREENHOUSE GASES

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

3.8.1 Environmental Setting

Various gases in the earth's atmosphere, classified as atmospheric Greenhouse Gases (GHGs), play a critical role in determining the earth's surface temperature. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Each GHG differs in its ability to absorb heat in the atmosphere of GHG emissions are presented in carbon dioxide equivalent, which weight each gas by its global warming potential. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. Based on a 100-year time horizon, Methane traps over 25 times more heat per molecule than CO_2, and N_2O absorbs roughly 298 times more heat per molecule than CO_2. Additional GHGs with high GWP include NF_3, SF_6, PFCs, and black carbon.

Emissions from future residential development resulting from Project could be generated by the following sources:

- Transportation: Emissions from vehicle trips beginning and ending in the City boundaries and from external/internal vehicle trips (i.e., trips that either begin or end in the City).
- Energy: Emissions generated from purchased electricity and natural gas consumption used for cooking and heating in the City.
- Solid Waste Disposal: Indirect emissions from waste generated in the City.
- Water/Wastewater: Emissions from electricity used to supply, treat, and distribute water based on the overall water demand and wastewater generation in the City.
- Area Sources: Emissions generated from light commercial equipment, agricultural, and construction equipment use in the City.

3.8.2 Environmental Impact Analysis

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Finding: Potentially Significant Impact

This Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, does not directly result in development. Certification of the Project itself would not lead to direct greenhouse gas emissions; however, future residential development associated with Project implementation would result in greenhouse gas emissions. As such, greenhouse gas emissions resulting from future Project implementation that may have a significant impact on the environment. Therefore, this potentially significant impact will be further analyzed in the EIR.

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

Finding: Potentially Significant Impact

The Project identifies Housing Opportunity Sites that have the potential for providing additional housing to meet the City's RHNA allocation Development of the Housing Opportunity Sites would require activities that would result in increased greenhouse gas emissions. Therefore, future residential development resulting from Project implementation may conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions and greenhouse gases, and this potentially significant impact will be further analyzed in the EIR.

3.9 HAZARDS AND HAZARDOUS MATERIALS

HAZARDS AND HAZARDOUS MATERIALS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard 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?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

3.9.1 Environmental Setting

Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material that a business or implementing agency has a reasonable basis for believing would be injurious to public health and safety or harmful to the environment if released into the workplace or the environment. Hazardous materials are manufactured, transported, stored, used, and disposed of on a regular basis. Although hazardous materials incidents can happen anywhere, certain areas are at higher risk.

Within the state, the California Environmental Protection Agency (Cal EPA) regulates the use and handling of hazardous materials and hazardous wastes. The California Department of Toxic Substances Control (DTSC) is a division of Cal EPA and works in conjunction with the United States Environmental Protection Agency (USEPA) to enforce and implement hazardous materials laws and regulations. The primary transportation routes of hazardous materials in Orange County near the City are the I-405 and I-

605 freeways. Some transportation of hazardous materials occurs on Pacific Coast highway and Seal Beach Boulevard within the City (City of Seal Beach 2003). Additionally, there are several hazardous materials cleanup sites within the City that are listed on several databases, including the State Water Resources Control Board Geotracker website (SWRCB 2023).

The City's General Plan Safety Element includes the following goals and policies related to hazards and hazardous materials (City of Seal Beach 2003):

- Policy 2A: Coordinate with federal, state, and county hazardous waste management plans to protect the health and welfare of the public, the environment, and the economy of the City of Seal Beach through comprehensive programs that ensure safe and responsible management of hazardous waste and materials.
- Policy 2B: Implement the measures outline in the City's Household Hazardous Waste Plan, Orange County's Hazardous Waste Management Plan, and Hazardous Materials Area Plan, and the County's Operational Area Marine Oil Spill Contingency Plan to ensure the effective management, transportation, and disposal of hazardous waste on a City-wide level.
- Policy 2C: Support enforcement of state "right to know" laws, which outline the public's right to information about local toxic producers.
- Policy 2F: Facilitate coordinated effective response to hazardous materials emergencies in the City to minimize health and environmental risks.
- Policy 2G: Promote public awareness in hazardous materials emergency response preparedness by any effective informational media, such as Emergency Preparedness Newsletter, neighborhood posters, and at least annual presentations at neighborhood association meetings.
- Policy 2H: Support the combination of the OCFA's hazardous materials disclosure program. Ensure annual inspections of businesses that generate or use hazardous materials, and identify and monitor any historical hazardous materials sites within the City for public health and safety issues.
- Policy 2I: Promote public participation and education in the implementation of the programs identified in the County's Hazardous Materials Management Program.
- Policy 2J: Encourage OCFA to monitor the flow of hazardous materials through the City to ensure public safety.
- Policy 2K: Encourage coordination between the OCFA and the Seal Beach Police Department in the designation of routes and enforcement of hazardous materials, routing ordinances, and laws with the I-405 freeway as the primary designated route.

3.9.2 Environmental Impact Analysis

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Finding: Less Than Significant Impact

Construction activities associated with future residential development resulting from Project implementation is anticipated to involve demolition, grading, and construction of new structures and buildings. Hazardous materials, such as paints, sealants, solvents, diesel fuels, and other typical hazardous materials for construction would be used. With the use of these materials, there is potential for spills to create hazardous conditions. Future residential development resulting from Project implementation would be required to comply with all applicable regulations, Orange County Hazardous Waste Management Plan, and General Plan policies that would minimize risks associated with the use of hazardous materials during construction activities, and they would be required to adhere to all emergency response plan requirements set forth by the Orange County Fire Authority (OCFA) throughout Project implementation.

The Project is proposing rezoning and establishment of additional residential and housing zones for Housing Opportunity Sites throughout the City. Upon completion of construction hazardous materials associated with Project operations would include materials used during typical household cleaning and maintenance activities. Although these potentially hazardous materials would vary, they would generally include household cleaning products, paints, fertilizers, and herbicides and pesticides. Many of these materials are considered household hazardous waste, common wastes, and/or universal wastes by the USEPA, which considers these types of wastes to be common to businesses and households and to pose a lower risk to people and the environment than other hazardous wastes when properly handled, transported, used, and disposed of (USEPA 2020). Federal, state, and local regulations typically allow these types of wastes to be handled and disposed of with less stringent standards than other hazardous wastes, and many of these wastes do not have to be managed as hazardous waste.

Therefore, by complying with existing laws, regulations, and General Plan policies, future residential development resulting from Project implementation would not create a significant hazard through routine transport, use, or disposal of hazardous materials, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

b) Would the project 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?

Finding: Less Than Significant Impact

During construction activities, the transport, use, storage, and disposal of hazardous materials could result in accidental releases into the environment. However, compliance with applicable laws and regulations would minimize the potential for hazardous materials releases that could pose harm to the public or environment.

Future Project implementation would establish additional residential housing opportunities throughout the City. As mentioned above, common materials associated with residential uses include small quantity hazardous material, such as cleaners and pesticides. Future residential development resulting from Project implementation would not pose a substantial hazard to the public or environment through accidental releases. Therefore, by complying with existing laws, regulations, and General Plan policies, future residential development resulting from Project implementation would not create a significant hazard through reasonably foreseeable upset and accident conditions, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Finding: Less Than Significant Impact

The proposed Housing Opportunity Sites are distributed throughout the City. Housing Opportunity Sites 8 and 11 are located within one-quarter mile of McGaugh Elementary School, which is currently surrounded by existing residential development, Seal Beach Boulevard and the Seal Beach Naval Weapons Station. As stated under Impact a), construction activities required for future residential development resulting from Project implementation would be required to comply with all applicable regulations, Orange County Hazardous Waste Management Plan, and General Plan policies that would minimize risks associated with the use of hazardous materials during construction activities. The same regulations that would protect onsite construction workers from potential risks related to the use of hazardous materials would also protect any nearby sensitive receptors, including schools. Future residential development resulting from Project implementation would be required to comply with existing laws and regulations regarding hazardous materials, waste, and emissions to minimize the potential for hazardous emissions to occur. Adherence to federal, state, and local regulations and requirements would reduce potential impacts associated with the accidental release of hazardous materials. Therefore, future residential development resulting from Project implementation 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, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

d) Would the project 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?

Finding: Less Than Significant Impact

The Hazardous Waste and Substances Sites List (Cortese List) is a planning document providing information about the location of hazardous materials release sites. California Government Code Section 65962.5 requires Cal EPA to develop, at least annually, an updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous materials release information for the

Cortese List. Several hazardous material sites are identified within the City; however, none of the Housing Opportunity Sites are identified on the Cortese List.

Individual development that occurs on the proposed Housing Opportunity Sites that may be located on or next to a hazardous materials site would be required to complete an environmental site assessment (ESA) by a qualified professional to ensure that the future development projects would not disturb hazardous materials sites and that any proposed development would not create a substantial hazard to the public or the environment. Future residential development resulting from Project implementation would be required to prepare and submit a Phase I ESA, as appropriate. If Phase I identifies a recognized environmental condition, it would recommend preparation of a Phase II ESA, which would consist of sampling and testing of soil, soil vapor, and groundwater for hazardous materials and human health risks assessments based on concentrations of the hazardous materials identified. Future residential development resulting from Project implementation would be required to implement the recommendations included in the ESAs to remediate hazardous materials before the City would issue building permits. If a new development that is developed under the Project is located on a property contaminated by hazardous substances, compliance with laws and regulations for investigations and remediation regulated at the local, state, and federal level would be required. Additionally, future residential development resulting from Project implementation would be required to implement General Plan policies that would minimize risks from hazardous materials sites. As future residential development resulting from Project implementation would require adherence to General Plan policies, compliance with applicable laws and regulations regarding hazardous materials sites, and preparation of environmental site assessments, impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

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 or private 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?

Finding: Potentially Significant Impact

The closest public airport to the Housing Opportunity Sites is Long Beach Airport, located approximately 5.2 miles to the northwest of the City. The City is not located within the Long Beach Airport's Airport Influence Area and therefore, Long Beach Airport operations would not result in a safety hazard or excessive noise for people residing or working on the identified Housing Opportunity Sites (Los Angeles County 2004). The Los Alamitos Joint Forces Training Base is not a public airport; however, it is located approximately 600 feet to the east of Housing Opportunity Sites 5, 6, and 10.). As identified in the Airport Environs Land Use Plan (AELUP) for Joint Forces Training Base Los Alamitos, the City is located within the airport's notification area and the identified Housing Opportunity Sites are dispersed throughout the airport's different height restriction zones and impact zones. Therefore, there is potential for development of the Housing Opportunity Sites to result in safety hazards. As discussed in Section 3.13, Noise, below, none of the Housing Opportunity Sites are located within the 65 decibel (dB) noise contour areas for the Los Alamitos Joint Forces Training Base, under both existing and future scenarios, as identified by the General Plan Noise Element (City of Seal Beach 2003). However, some sites are located adjacent to the noise contour areas and would require noise control measures to minimize potential impacts. Therefore, due to the proximity of the Housing Opportunity Sites to the Los Alamitos Joint Forces Training Base,

implementation of the Project could result in a safety or noise hazard for people residing or working in the area and result in a potentially significant impact. This potentially significant impact will be further analyzed in the EIR.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Finding: Less Than Significant Impact

The City has prepared an Emergency Operations Plan (EOP) and a Local Hazard Mitigation Plan (LHMP) to ensure protection of City residents in times of emergency and to identify local hazards and provide measures to address these hazards (City of Seal Beach 2017). All future residential development resulting from Project implementation would be required to comply with applicable fire and building codes and would be required to be reviewed by the OCFA's Community Risk Reduction Division prior to approval. Additionally, Project implementation would be required to comply with policies identified in the General Plan to ensure effective emergency response. Compliance with General Plan policies, applicable fire and building codes, and the City's EOP and LHMP would ensure that Project implementation would not substantially impair an adopted emergency response plan or evacuation plan, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Finding: Less Than Significant Impact

The Housing Opportunity Sites are located on different parcels located throughout the City and are not located in hillside areas or areas with urban-wildland interfaces. Project implementation would not occur within a State Responsibility Area (SRA) or Very High Fire Hazard Severity Zone (VHFHSZ). Future residential developments resulting from Project implementation would be required to adhere to a wide range of state and local codes pertaining to fire protection and would be required to abide by the City's EOP and LHMP. Adherence to the measures in these plans would minimize impacts to the extent possible and would ensure that new developments would not expose people or structures to significant risks associated with wildland fires. Additionally, future residential development resulting from Project implementation would be required to implement General Plan policies identified to minimize risk from wildfire hazards. Therefore, with implementation of applicable state and local codes, future residential development resulting from Project implementation would not expose people or structures to significant wildland fire risks, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.10 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater 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;	☒	☐	☐	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☒	☐	☐	☐
iv. Impede or redirect flood flows.	☒	☐	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☒	☐	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☒	☐	☐	☐

3.10.1 Environmental Setting

The City is located within the Santa Ana River Watershed, which is the most extensive watershed in Orange County, running through a three-county area from its headwaters in the San Bernadino Mountains to its outlet in the Pacific Ocean (Orange County 2013). The Santa Ana River Watershed encompasses approximately 2,700 square miles.

The City is located near multiple hydrologic features which include rivers, the Pacific ocean and wetlands. Within the City limits is the mouth of the San Gabriel River, draining an area of approximately 700 square miles within Los Angeles and Orange Counties, the Pacific Ocean, and various wetland areas that are subject to various sources of pollution within the community. The San Gabriel River is located along the western boundary of the City. The San Gabriel River originates in Los Angeles County but empties into the ocean at Seal Beach. Additionally, the river provides an outlet for flood control basins and channels

within the City. The river is a major source of ocean contamination after storm events due to the washing of upstream pollutants and trash into the ocean (City of Seal Beach 2003).

The City's General Plan Safety Element includes the following goals and policies related to hydrology and water quality (City of Seal Beach 2003):

- Policy 2N: Facilitate the proper separation of sewer and storm drain systems through construction upgrades and operation and maintenance of sewer and storm drain infrastructure to eliminate the flow of sewage into the City storm drains.
- Policy 2O: Facilitate coordination and participation by all of the jurisdictions that make up the Los Angeles and Santa Ana RWQCBs to improve water quality. Encourage the elimination of sewer discharges and non-point source pollution into the San Gabriel River.
- Policy 2S: Minimize changes in hydrology and pollutant loading, require incorporation of control, including structural and non-structural BMPs to mitigate the projected increase 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 allows more percolation of storm water into the ground.
- 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.
- Policy 2W: Establish development guidelines for areas particularly susceptible to erosion and sediment loss.

3.10.2 Environmental Impact Analysis

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Finding: Less Than Significant Impact

Construction activities related to Project implementation could impact water quality due to erosion and other pollutants entering construction site runoff, resulting in polluted runoff entering the City's stormwater system. Construction activities such as grading could accelerate the rate of erosion and cause substantial impacts to water quality. The City's General Plan Open Space, Recreation, and Conservation Element encourages reducing urban pollutant runoff through implementation of National Pollutant Discharge Elimination System (NPDES) programs (City of Seal Beach 2003). Additionally, Chapter 9.30 Storm Water Management Program of the City's Municipal Code includes requirements for stormwater drainage systems, polluted runoff, control of water quality management, and enforcement and permit requirements.

Any projects that include one acre or greater of soil disturbance would be required to comply with the Construction General Permit and associated NPDES regulations to ensure that potential for soil erosion is minimized. Future development associated with Project implementation would be required to comply with all relevant NPDES requirements and would be required to prepare a SWPPP. The SWPPP would be required to include construction BMPs that address pollutant source reduction and provide measures of controls necessary to mitigate potential pollutant sources. The Project would also be required to implement General Plan policies that would ensure that new development minimizes potential water quality impacts. Therefore, with the implementation of General Plan policies, adherence to NPDES and Construction General Permit requirements, such as the preparation of a SWPPP, and adherence to all relevant state and local regulations, construction activities associated future residential development resulting from Project implementation would not violate water quality standards or waste discharge requirements, and impacts would be less than significant.

Operation of future residential development resulting from Project implementation could potentially create new sources of polluted runoff and increase post-construction pollutants. However, as identified in the Housing Element Update, all of the identified Housing Opportunity Sites are already developed with existing uses; therefore, development of the Housing Opportunity Site with residential uses would not result in a substantial increase in polluted runoff and impervious surfaces. To prevent long-term impacts related to Project operation, new residential development related to Project implementation would be required to comply with City's Municipal Code Chapter 9.20, Storm Water Management Program. Municipal Code Section 9.20.015, Controls for Water Quality Management, outlines water quality management requirements for all new development and significant redevelopment projects, including requiring compliance with the Orange County Drainage Area Management Plan (DAMP). Additionally, future residential development resulting from Project implementation would be required to comply with development requirements and standards for storm drainage and stormwater runoff identified under City Municipal Code Section 11.4.10.020(H), including prevention of runoff, connection to the public drainage system, incorporation of design requirements and integration of BMPs, as required by the City's NPDES permit requirements. Additionally, future residential development resulting from Project implementation would be required to incorporate General Plan policies which ensure that new development minimizes potential water quality impacts. With the adherence to federal, state, and local regulations and requirements and relevant General Plan policies, runoff associated with both construction and operation of future residential development resulting from Project implementation would not violate any water quality standards or discharge requirements, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Finding: Potentially Significant Impact

The Project is proposing implementation of the City's new Housing Element Update and Zoning Code Update which would result in the provision of Housing Opportunity Sites throughout the City that have the potential to accommodate new housing developments to help the City meet its RHNA allocation. As

identified in the Housing Element Update, all of the identified Housing Opportunity Sites are already developed; therefore, they do not provide substantial areas for groundwater recharge. As identified in the City's 2020 Urban Water Management Plan (UWMP), the City provides water to its residents and other customers using the imported potable water supply obtained from its regional wholesaler, Municipal Water District of Orange County (MWDOC) and local groundwater from the Orange County Groundwater Basin, which is managed by the Orange County Water District (OCWD). According to the 2020 UWMP, the City relied on 65 percent groundwater and 35 percent imported water during its Fiscal Year 2019-2020 and by 2045, it is projected that the water supply portfolio would change to approximately 85 percent groundwater and 15 percent imported water (City of Seal Beach 2021). Future residential developments resulting from implementation of the Project would result in an increased demand of potable water in the City through increased development and resulting in indirect population growth; therefore, an increased demand to groundwater supplies would result. Therefore, implementation of the Project could result in decreased groundwater supplies resulting from increased demand, and this potentially significant impact will be further analyzed in the EIR.

c) Would the project 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;

Finding: Less Than Significant Impact

Implementation of the Project would result in changes to land uses which may result in an increase of impervious surfaces. However, the Housing Opportunity Sites identified for rezoning under the Project are already developed with existing uses and located in areas surrounded by existing developments. Future residential developments resulting from implementation of the Project would utilize the existing drainage facilities in the existing surrounding areas. Additionally, Project implementation would require construction activities that could result in increased potential for erosion and siltation to occur. As identified above, under Impact a), the Project would be required to comply with City Municipal Code Chapter 9.20 Storm Water Management Program. City Municipal Code Section 9.20.015 Controls for Water Quality Management outlines water quality management requirements for all new development and significant redevelopment projects, including requiring compliance with the Orange County DAMP. Additionally, the future residential development resulting from Project implementation would be required to comply with development requirements and standards for storm drainage and stormwater runoff identified under City Municipal Code Section 11.4.10.020(H), including prevention of runoff, connection to the public drainage system, incorporation of design requirements and integration of BMPs as required by the City's NPDES permit requirements.

Future development projects would be required to prepare and implement a SWPPP, including standard erosion control measures and BMPs to minimize the risk of polluted runoff resulting from increased erosion and sedimentation. The SWPPP would include an erosion control plan that identifies measures, such as diverting runoff from disturbed areas and treatment measures to trap sediment, to ensure there is no polluted runoff. Additionally, future residential development resulting from Project implementation

would be required to incorporate General Plan policies which ensure that new development minimizes potential water quality impacts resulting from erosion and siltation. With the adherence to federal, state, and local regulations and requirements and relevant General Plan policies, runoff associated with both construction and operation of future residential development resulting from implementation of the Project would not result in increased erosion or siltation on or offsite, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Finding: Potentially Significant Impact

Future residential development resulting from Project implementation could result in an increase of impervious surfaces within the City; however, implementation of the Project would not result in substantial increases in impervious surfaces as the Housing Opportunity Sites identified for rezoning are already developed with existing uses and located in highly urbanized areas with substantial impervious surfaces. Though the Project may not result in substantial increased in impervious surfaces resulting in increased rate and amount of surface runoff, there are existing storm drainage capacity issues within portions of the City. Therefore, Project implementation and development of some of the identified Housing Opportunity Sites may result in flooding impacts related to stormwater runoff. As such, this potentially significant impact will be further analyzed in the EIR.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Finding: Potentially Significant Impact

As identified above under Impact c.i, the Project would be required to comply with City Municipal Code Chapter 9.20, Storm Water Management Program. City Municipal Code Section 9.20.015, Controls for Water Quality Management, outlines water quality management requirements for all new development and significant redevelopment projects, including requiring compliance with the DAMP. Additionally, the Project would be required to comply with development requirements and standards for storm drainage and stormwater runoff identified under City Municipal Code Section 11.4.10.020(H), including prevention of runoff, connection to the public drainage system, incorporation of design requirements, and integration of BMPs as required by the City's NPDES permit requirements. Compliance with these requirements would ensure both construction and operation of future residential development resulting from Project implementation would not result in increased polluted runoff.

However, as identified above under Impact c.ii, there are existing storm drainage capacity issues within portions of the City. Therefore, Project implementation and development of some of the identified Housing Opportunity Sites may result in creation or contribution of runoff water that would exceed the capacity of the storm drainage system. As such, this potentially significant impact will be further analyzed in the EIR.

iv. Impede or redirect flood flows.

Finding: Potentially Significant Impact

As identified in the City's General Plan Safety Element, portions of the City are subject to flooding due to wave run-up which is typically caused by large swells produced by storms ay sea occurring at high tide (City of Seal Beach 2003). Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRM) to identify potential flood areas across the United States. A majority of the Housing Opportunity Sites identified for the Project are located within areas identified as Zone X, or an area with minimal flood hazard and is identified as an area with reduced flood risk due to levees (FEMA 2023). However, as identified by FEMA, Housing Opportunity Sites 11 and 12 are located within Zone D, an area with possible but undetermined flood hazards. Additionally, Housing Opportunity Site 10 and a portion of Housing Opportunity Site 6 are located within areas identified by FEMA as Zone AE (EL 14), or a special flood hazard area with a flood elevation of 14 feet. As some of the Housing Opportunity Sites are located within flood risk areas, future residential developments resulting from implementation of the Project may be located in areas susceptible to flooding and implementation of the Project could impede or redirect flood flows. Therefore, this potentially significant impact will be further analyzed in the EIR.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Finding: Potentially Significant Impact

As identified above under Impact 3.iv, a majority of the Housing Opportunity Sites identified for the Project are located within areas identified as Zone X, or an area with minimal flood hazard and is identified as an area with reduced flood risk due to levees (FEMA 2023). However, Housing Opportunity Sites 11 and 12 are located within Zone D, an area with possible but undetermined flood hazards and Housing Opportunity Site 10 and a portion of Housing Opportunity Site 6 are located within areas identified by FEMA as Zone AE (EL 14), or a special flood hazard area with a flood elevation of 14 feet. Due to the City's proximity to the Pacific Ocean, the City is at risk of tsunamis. The City's General Plan Safety Element identified that the risk of inundation by a tsunami appears to be low; however, if an earthquake occurred along the Newport-Inglewood fault, a tsunami of high inundation level could be expected (City of Seal Beach 2003a). As such, implementation of the Project could result in risk of release of pollutants due to project inundation resulting from flooding, tsunamis, and seiches and therefore, this potentially significant impact will be further analyzed in the EIR.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Finding: Potentially Significant Impact

Measures identified above to ensure that developments have a less than significant impact on surface and groundwater quality would also ensure that future development does not obstruct or conflict with implementation of a water quality control plan. However, as identified above under Impact b), the Project may result in potentially significant impacts related to groundwater supplies such that the Project may

impede sustainable groundwater management of the basin. Therefore, future residential development resulting from Project implementation could conflict with or obstruct implementation of a sustainable groundwater management plan, and this potentially significant impact will be further analyzed in the EIR.

3.11 LAND USE AND PLANNING

LAND USE AND PLANNING Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☒	☐
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?	☒	☐	☐	☐

3.11.1 Environmental Setting

The proposed Project is located in the City of Seal Beach, California, located at the northwestern edge of Orange County, California. It borders the City of Long Beach (Los Angeles County) to the north, the Orange County Cities of Huntington Beach and Westminster to the east, Huntington Beach to the south, and the Pacific Ocean to the west. The Project is interspersed throughout the City, which has a land area of approximately 13 square miles. The Project proposes to rezone six Housing Opportunity Sites, proposes a new Specific Plan for one site, and proposed a Specific Plan Amendment for another site, in order to allow increased residential densification which would result from implementation of the Housing Element Update. Additionally, the Project identified three underutilized sites and two military sites as Housing Opportunity Sites that could be redeveloped with residential uses to help the City meet its RHNA allocation.

3.11.2 Environmental Impact Analysis

a) Would the project physically divide an established community?

Finding: Less Than Significant Impact

The Project identified Housing Opportunity Sites within the City to allow for densified residential development, including low- and moderate-income housing units to help the City meet its RHNA allocation. Future residential development resulting from Project implementation would occur within areas that are already developed and would not occur within any existing residential communities that could be divided. The identified Housing Opportunity Sites are dispersed throughout the City rather than concentrated in a single area of the City and therefore, development of these sites would not result in division of established communities. Therefore, this impact would be less than significant, and this topic does not require further evaluation in the EIR.

b) Would the project cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Finding: Potentially Significant Impact

The Project is proposing to redevelop, or rezone identified Housing Opportunity Sites in various locations throughout the City. The Housing Element Update identifies 13 Housing Opportunity Sites throughout the City that have the potential for providing additional housing. The sites are broken into two categories: underutilized sites that do not require zoning code changes and sites where zoning modification are proposed. Of the 13 Housing Opportunity Sites, six require rezoning, two on the Seal Beach Naval Weapons Station require a change of use, one is proposed for a Specific Plan, and one would require an amendment to the Main Street Specific Plan. Housing Opportunity Site 10 is going through its own rezoning and specific plan process with the current property owner. The rezoning effort would also include the establishment of a new zoning designation, MC/RHD, which would apply to five of the Housing Opportunity Sites (Sites 4, 5, 6, 7, and 8). The new MC/RHD mixed-use zoning designation is needed in order to facilitate a density equivalent to RHD-46 (up to 46 units per acre) but with a minimum density of 40 units per acre. Future residential development resulting from Project implementation may cause a significant environmental impact due to a conflict with applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigation an environmental effect. Therefore, this impact will be further analyzed in the EIR.

3.12 MINERAL RESOURCES

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

3.12.1 Environmental Setting

Mineral resources in the City include an oil extraction at Esther Island within the tidelands, oil extraction along the Newport-Inglewood Fault on the Hellman Ranch property, and an oil lease site in the Seal Beach NWR (City of Seal Beach 2003). The California Surface Mining and Reclamation Act of 1975 sets forth requirement for the state to classify all land into Mineral Resource Zones (MRZs) that indicate the potential for mineral resources regardless of existing land use or ownership. However, there are no known or identified mineral resources identified within the Housing Opportunity Sites (DOC 2023b).

3.12.2 Environmental Impact Analysis

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

a-b) Finding: No Impact

The General Plan does not indicate that any Housing Opportunity Sites are located within an area of locally important mineral resources (City of Seal Beach 2003). Housing Opportunity Site 9 is zoned OE; however, it is a vacant lot with no oil extraction or production activities present. The Project area does not encompass the City's identified resource areas: Hellman Ranch, Esther Island, and the Seal Beach NWR. The proposed Housing Opportunity Sites are residential, commercial, and other underutilized areas. Housing Opportunity Site 4 is the nearest site to one of the identified resources, Hellman Ranch, and is located approximately 0.3-mile to the northeast. Additionally, the Housing Opportunity Sites are not currently used for mineral extraction and do not contain any known or designated mineral resources. Future residential development resulting from Project implementation would not result in the loss of availability of any known mineral resources, nor would it have potential impacts associated with the loss availability of a locally mineral resource recovery site. As such, there would be no impact, and this impact does not require further evaluation in the EIR.

3.13 NOISE

NOISE Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels.	☒	☐	☐	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☒	☐	☐	☐

3.13.1 Environmental Setting

The City has set noise and vibration performance standards for noise sources in the City, which are adopted by reference from Orange County Code Section 4-6.1. City Municipal Code Chapter 7.15, Noise, defines the qualitative standards used in determining a potential violation and provides performance standards for interior and exterior noise by zone, based on land use (City of Seal Beach 2023e). Table 6 shows the acceptable interior and exterior noise limits by zone. Exterior noise limits in the table are based on the noise contours and compatibility guidelines provided in the General Plan Noise Element (City of Seal Beach 2003).

Table 6: City Interior and Exterior Noise Standards

Noise Zone	Interior (dBA Ldn)*	Exterior (dBA Ldn)	Time Period
Noise Zone 1 – Residential Properties	55	55	7:00 am to 10:00 pm
Noise Zone 1 – Residential Properties	50	50	10:00 pm to 7:00 am
Noise Zone 2 – Commercial Properties		65	At any time
Noise Zone 3 – Industrial, Manufacturing and Oil Properties		70	At any time

Source: City of Seal Beach Municipal Code, 2023.

Notes: dB (decibels) at the A-weighted scale over a 24-hour, time-weighted annual average noise level.

The City's Municipal Code indicates that noise associated with construction, repair, remodeling or grading of real property are exempt from the noise standards if performed between 7:00 am and 8:00 pm on weekdays and 8:00 am and 8:00 pm on Saturday (City of Seal Beach 2023e).

According to the General Plan Noise Element, the predominant noise source in the City is caused by automobiles and some overflights from military aircrafts. Noise sensitive receptors in the City include, but are not limited to, residences, schools, hospitals, elder care facilities, or any other land use areas deemed as sensitive by the City. As part of the General Plan Noise Element, in 2002, 10 sites were selected for measurement of the existing noise environment, which proved to be highly variable, depending on the location (City of Seal Beach 2003). The time-averaged sound level in the City was in the range of approximately 59.8 to 70.3 dBA Leq.

3.13.2 Environmental Impact Analysis

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Finding: Potentially Significant Impact

Construction and operation resulting from future residential development resulting from Project implementation could result in the generation of temporary and permanent increases in ambient noise levels in the vicinity of future development projects. Future residential development resulting from Project implementation may result in a substantial increase in ambient noise in excess of City standards. Therefore, this potentially significant impact will be further analyzed in the EIR.

b) Would the project exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Finding: Potentially Significant Impact

Construction activities associated with development of the identified Housing Opportunity Sites would generate varying degrees of groundborne vibration and noise levels, depending on construction procedures and equipment. Construction and operation of the future residential development resulting from Project implementation may result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Therefore, this potentially significant impact will be further analyzed in the EIR.

c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Finding: Potentially Significant Impact

The closest public use airport to the City boundaries is Long Beach Airport, which is located approximately 5.2 miles to the northwest, and its airport land use plan boundaries are approximately three miles from the City boundaries. The Los Alamitos Joint Forces Training Base conducts flights over the City and noise sensitive land uses throughout the week. The Los Alamitos Joint Forces Training Base is

not a public airport; however, it is located approximately 600 feet to the east of Housing Opportunity Sites 5, 6, and 10. The General Plan Noise Element provides noise contours prepared by the California National Guard, and several noise sensitive areas north of I-405 were experiencing aircraft-generated noise levels greater than 65 dB at the community noise equivalent level (CNEL). General Plan Noise Element Figure N-5 depicts the existing noise contours of the Los Alamitos Joint Forces Training Base, and Figure N-6 depicts the future noise contours. None of the Housing Opportunity Sites are located within the 65 dB CNEL noise contour, both in the existing and future scenarios, as identified by the General Plan Noise Element (City of Seal Beach 2003). However, some sites are located adjacent to the noise contour areas and would require noise control measures to minimize potential impacts. Therefore, due to the proximity of the Housing Opportunity Sites to the Los Alamitos Joint Forces Training Base, implementation of the Project could result in excessive noise levels for people residing or working in the area and result in a potentially significant impact. This potentially significant impact will be further analyzed in the EIR.

3.14 POPULATION AND HOUSING

POPULATION AND HOUSING Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☒	☐	☐	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

3.14.1 Environmental Setting

Seal Beach was incorporated in 1915 primarily as a farming community and beachside tourist destination. The population of the City remained relatively stable from 1915 to 1944 with little more than 1,000 residents. However, in 1944 the U.S. Navy acquired half of the city to construct the Seal Beach Naval Weapons Station bringing new residents to the City. The population increased to more than 7,000 people by 1954. In 1962, the Leisure World retirement community was established in the City with an estimated 9,000 senior residents. Other housing development during this time took place in the neighborhoods known as College Park East, College Park West, and Marina Hill; and the Surfside community was annexed into the City. However, these development booms were followed by very limited growth in the 1970's and afterward. During the 20-year period from 2000 to 2020, the City had an annual growth rate of 0.2 percent compared to 0.7 percent for the region as a whole. According to the City's Housing Element Update, the City had an estimated population of 24,992 residents in 2020 and as of January 1, 2021, the City population was estimated to be approximately 24,443 residents (City of Seal Beach 2022). Additionally, as of January 1, 2023, the Department of Finance (DOF) population estimates identifies the City's population to be approximately 24,647 residents (DOF 2023).

The housing stock in the City consists of a mix of single-family and multi-family units with one mobile home park. The City's Housing Element Update identified that the most commonly occurring household size in the City is one person (45.1 percent) and the second-most occurring household is of two people (35.4 percent) (City of Seal Beach 2022). As of January 1, 2023, the City is estimated to have 14,675 total housing units with a vacancy rate of 9.3 percent (DOF 2023).

3.14.2 Environmental Impact Analysis

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

Finding: Potentially Significant Impact

The City is proposing a rezoning program to accommodate the planning of low- and moderate-income households. The City's 2021 – 2029 Housing Element Update was adopted by City Council on February 7, 2022. Pursuant to the state's RHNA allocation, the City is required to plan for 1,243 new housing units, with 258 units allocated for very low-income households, 201 units allocated for low-income households, 239 units allocated for moderate-income households, and 545 units allocated for above moderate-income households. The City's RHNA allocation was 1,243 new housing units, and the Housing Element Update requires the City to demonstrate that it can accommodate the RHNA allocation, as well as an additional buffer and, therefore, the City proposes a rezoning program to accommodate the planning of low- and moderate-income households, as required by the state's RHNA allocation for the City.

Certification of the proposed Project itself would not result in direct unplanned population growth as the Project is proposing the rezoning and identification Housing Opportunity Sites within the City to allow for more residential development potential and not the actual development of these sites. However, certification of the Project would lead to more parcels in the City being available for residential developments and could result in indirect impacts to population growth.

According to the DOF, as of January 2023, the City is estimated to have a persons per household rate of 1.83 persons per household (DOF 2023). The identified Housing Opportunity Sites could accommodate a total of 1,833 housing units at maximum buildout of each individual site. If all Housing Opportunity Sites are developed to the maximum allowable density with residential uses to provide an additional 1,833 housing units, it would result in a population growth of approximately 3,354 residents. According to the DOF's population estimates, the City had an estimated population of 24,647 as of January 2023 (DOF 2023). Therefore, the 3,354 residents that would be generated by maximum buildout of the Project would result in a 12 percent increase in population over current conditions.

The SCAG identifies growth forecast projections for each county and city under jurisdiction of the SCAG. The SCAG's 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy adopted on September 3, 2020, included a demographics and growth forecast technical report that identifies the projected growth for each county and city under the jurisdiction of the SCAG. The SCAG's growth forecast identifies the anticipated population for Seal Beach by the year 2045 to be 25,400 residents (SCAG 2020). As the City's current population is identified at 24,647 residents and implementation of the Project would result in an increase of 3,354 residents, the projected increase in residents resulting from implementation of the Project would be greater than the projected growth for the City.

Project implementation would be in compliance with General Plan and Housing Element Update policies to provide for balanced housing types and affordability levels and provide access to affordable housing to lower-income households. Additionally, the Project would ensure that the City is in compliance with the

state's RHNA allocation for the City. However, as the Project would result in an increase in the number of residents above the projected future residential population for the City, future residential development resulting from Project implementation could result in potentially significant impacts related to population growth. Therefore, this topic will be further evaluation in the EIR.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Finding: Less Than Significant Impact

The Housing Opportunity Sites that are proposed for rezoning and the identified underutilized sites include a variety of uses, including commercial, retail, industrial, storage, residential, and military. The Project sets the framework for future growth and development in the City by providing additional opportunities for development of housing and therefore, does not directly result in development. Certification of the Project itself would not lead to construction of new residential developments in the City but would result in changes to the existing zoning designations and proposed use of the site. Project implementation would not require relocation of existing developments, as it would not directly lead to development of the identified Housing Opportunity Sites. However, if the Housing Opportunity Sites are identified for new development or redevelopment on an individual basis, displacement of existing people or housing could occur. Individual development and redevelopment of the sites may result in displacement of existing people or housing if the identified Housing Opportunity Sites are currently developed with existing residential uses.

However, the Housing Opportunity Sites would likely be developed or redeveloped with a higher density residential development and provide for more residential units, as compared to existing conditions. Therefore, any existing housing that would be demolished as a result of future residential development resulting from Project implementation could be replaced at a higher ratio of residential units. Therefore, future residential development resulting from Project implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.15 PUBLIC SERVICES

PUBLIC SERVICES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	☒	☐	☐	☐
ii) Police protection?	☒	☐	☐	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☒	☐	☐	☐
v) Other Public Facilities?	☐	☐	☒	☐

3.15.1 Environmental Setting

Fire Protection

OCFA provides fire protection and emergency medical services in the City. OCFA also serves 23 cities within the County and all unincorporated areas. The OCFA protects over 1,984,758 residents from its 77 fire stations located throughout the County. OCFA Reserve Firefighters work 10 stations throughout Orange County (OCFA 2023). The OCFA 2022 Statistical Annual Report identified that the department employed a total of 1,556 staff for various positions throughout the OCFA. In 2022, OCFA responded to 175,457 incidents. The Housing Opportunity Sites are located within the fire response zones for OCFA Fire Stations 63 and 64.

Police Protection

Police services for the Project would be provided by the Seal Beach Police Department (SBPD). SBPD is responsible for updating the Emergency Services Plan, incorporating a model citizen response model, evacuation plans, emergency aid, comprehensive communications components, and a coordination program with other local government agencies, schools, hospitals, and utility companies (City of Seal Beach 2003).

Schools

The City is part of the Los Alamitos Unified School District (Los Al USD) which includes K-12 education. Within Los Al USD, there are nine school campuses serving more than 9,500 students in its jurisdiction. There is only one Los Al USD school within the City, McGaugh Elementary School.

Parks

The City offers built and natural trails, developed parks, beaches, and golf courses as some of the recreational opportunities in the City. The public park system in the City includes mini, neighborhood, community, and major/regional parks that are differentiated by scale, population served, and amenities. The City's Park standard is based on guidance provided by California Government Code Section 666477, referred to as the Quimby Act, and the City has a park standard of three acres per 1,000 residents. In addition to various parks, the shoreline of Seal Beach is considered to be of regional significance.

Other Public Facilities – Libraries

The Orange County Library operates 33 libraries within the County. There are two libraries within the City, including Orange County Library Seal Beach Branch, located approximately 0.15 mile south of the Housing Opportunity Site 8, and Leisure World Library, located in proximity to Housing Opportunity Site 2.

The City's General Plan Safety Element includes the following goals and policies related to public services (City of Seal Beach 2003):

- Policy 1C: Continue to maintain the Emergency Operations Center (EOC) and provide for its adequate support and staffing, including the acquisition and maintenance of a mobile Incident Command Support vehicle for emergency response.
- Policy 1L: Evaluate the location of all public facilities necessary for emergency response in relation to the City's current Hazard Maps and the level of risk associated with their locations, and move facilities located in high or extreme hazard areas to areas less subject to hazards, if feasible.
- Policy 1M: Ensure that any new public facilities are designed and located in such a manner as to eliminate potential hazard impacts that may reduce the utility of the facility following a disaster.
- Policy 4A: Ensure that adequate facilities and fire service personnel are maintained based on population, fire hazards in and around the City and a performance standard of an average total reflect time of seven minutes or less.

3.15.2 Environmental Impact Analysis

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i. Fire Protection?

Finding: Potentially Significant Impact

The Project sets the framework for future growth and development in the City by providing additional opportunities for development of housing and therefore, does not directly result in development. Certification of the Project itself would not lead to construction of new residential developments in the City. However, implementation of the Project would result in facilitation of up to 1,833 new housing units being developments in the City and would result in population growth that would incrementally increase in demand for fire protection and emergency services. The increase in demand for fire protection and emergency services could result in impacts to fire services and facilities, including response times or the need for new or physically altered fire protection facilities. Therefore, this impact is potentially significant and will be further analyzed in the EIR.

ii. Police Protection?

Finding: Potentially Significant Impact

The Project sets the framework for future growth and development in the City by providing additional opportunities for development of housing and therefore, does not directly result in development. Certification of the Project itself would not lead to construction of new residential developments in the City. However, implementation of the Project would result in facilitation of up to 1,833 new housing units being developments in the City and would result in population growth that would incrementally increase in demand for police services. The increase in demand for police services could result in impacts to police services and facilities, including response times or the need for new or physically altered police protection facilities. Therefore, this impact is potentially significant and will be further analyzed in the EIR.

iii. Schools?

Finding: Less Than Significant Impact

Project implementation would identify various Housing Opportunity Sites throughout the City to provide additional residential housing opportunities for low- and moderate-income households. As stated in the Housing Element Update:

> *State law limits fees charged for development permit processing to the reasonable cost of providing the service for which the fee is charged. Various fees and assessments are charged by the City and other public agencies to cover the costs of processing permit applications and providing services and facilities such as schools, parks and infrastructure. Almost all of these fees are assessed through a pro rata share system, based on the magnitude of the project's impact or on the extent of the benefit that will be derived. Development fees will vary from project-to-project depending on the specific characteristics. Table IV-8 summarizes the development fees for typical residential projects.*

Currently, a majority of the City's K-12 student population needs to travel outside the City to attend school, and Los Alamitos USD is anticipated to have adequate capacity to serve potential new students generated from Project implementation. Los Alamitos USD schools generally have small class sizes and low student to teacher ratios (Los Alamitos Unified School District 2023). Pursuant to Government Code Section 65996, payment of school fees is deemed to provide full and complete school facilities mitigation. Future residential development resulting from Project implementation would also be required to comply

with policies in the General Plan pertaining to ensuring adequate school services. Therefore, with the payment of required fees and incorporation of General Plan policies, the Project would not result in the need for new or physically altered school facilities, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

iv. Parks?

Finding: Potentially Significant Impact

Certification of the Project itself would not lead to construction of new residential developments in the City. Future housing developments facilitated by the Project would be subject to individual environmental review and would occur incrementally as market conditions allow and at the discretion of the individual property owner. None of the Housing Opportunity Sites are currently zoned for park facilities nor are they developed with existing park facilities. Future housing development facilitated by the Project and the resulting population growth would result in an incremental increase in demand for parks throughout the City. Though the increase in demand for park facilities would not be concentrated in one part of the City as the Housing Opportunity Sites are dispersed throughout the City, the City does not have the land capacity to increase parkland and therefore could result in the City not meeting its parkland standard of three acres per 1,000 residents. As such, this impact is potentially significant and will be further analyzed in the EIR.

v. Other Public Facilities – Libraries?

Finding: Less Than Significant Impact

Project implementation would create additional residential housing opportunities within the City to provide housing units to help the City meet its RHNA allocation. These additional units are not anticipated to result in an increase in demand on public facilities. The Leisure World Library located in proximity to Housing Opportunity Site 2 is outside of the proposed rezone portion of this site; therefore, no libraries would be removed as a result of future Project implementation. Additionally, future residential development resulting from Project implementation would be required to comply with General Plan policies that would ensure adequate library services are provided. Therefore, Project implementation would not result in the need for new or physically altered public facilities, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.16 RECREATION

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

3.16.1 Environmental Setting

Open space or outdoor recreation is defined by the City as land that is set aside for neighborhood, community or regional parks, beaches, special use parks or facilities, greenbelts, and open space corridors (City of Seal Beach 2003). Sunset Marina Park and the shoreline of Seal Beach are some of the recreational areas located within the City that provide various types of recreational activities for the City's residents and adjacent cities residents can utilize. The City offers approximately 77.3 acres of parks and open space for various recreational activities (Seal Beach 2003).

3.16.2 Environmental Impact Analysis

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

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

a-b) Finding: Potentially Significant Impact

Certification of the Project itself would not lead to construction of new residential developments in the City. None of the Housing Opportunity Sites are currently zoned for park facilities nor are they developed with existing park facilities and therefore, individual developments proposed on the Housing Opportunity Sites would not result in conversion of parks or recreational facilities to residential uses. Future housing development facilitated by the Project and the resulting population growth would result in an incremental increase in demand for parks throughout the City. Though the increase in demand for park facilities would not be concentrated in one part of the City as the Housing Opportunity Sites are dispersed throughout the City, the City does not have the land capacity to increase parkland and therefore could result in the City not meeting its parkland standard of three acres per 1,000 residents. The Project could increase the use of existing parks and recreational cities such that substantial physical deterioration would occur or be

accelerated and may require the construction or expansion of existing facilities. As such, this impact is potentially significant and will be further analyzed in the EIR.

3.17 TRANSPORTATION

TRANSPORTATION Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with a program plan, ordinance, or policy addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☒	☐	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection(s) or incompatible uses (e.g. farm equipment))?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.17.1 Environmental Setting

SB 743 caused revisions to the CEQA Guidelines which established new criteria for determining the significance of transportation impacts, so that level of service or other similar measures of vehicular capacity or traffic congestion would not be the sole basis for determining significant impacts under CEQA. The revised CEQA Guidelines utilize the vehicle miles traveled (VMT) metric to evaluate the significance of transportation related impacts for development projects, land use plans, and transportation infrastructure projects. The Governor's Office of Planning and Research (OPR) has provided a Technical Advisory (December 2018) that recommends specific VMT significance thresholds that may constitute a significant transportation impact and lead agencies have the discretion to set or apply their own thresholds of significance. OPR recommends use of a per-capita measurement of VMT for CEQA analysis based on average VMT per resident for evaluation of residential development. The City has similarly adopted thresholds of significance consistent with the OPR recommendation. Certain types of development, such as development within a one-half-mile of an existing major transit stop can generally be presumed to have a less than significant impact.

Regional and local access roads in the City include SR 1 (Pacific Coast Highway), SR 22 (Garden Grove Freeway), I-405 (San Diego Freeway), Seal Beach Boulevard, Westminster Boulevard, Main Street, and Marina Drive. OCTA provides public transportation services on Bus Routes 1, 42 and 60. Senior transportation programs are provided by California Yellow Cab, and Senior Non-Emergency Transportation is also provided to provide access for routine medical care (City of Seal Beach 2023f). There are also multiple pedestrian and bicycle paths in the City, and the General Plan Circulation Element includes goals, objectives and policies related to improved bicycle and pedestrian routes (City of Seal Beach 2003a), as follows:

Goal: Provide a citywide system of safe, efficient, and attractive bicycle and pedestrian routes for commuter, school and recreational use.

- Objective: Promote the safety of bicyclists and pedestrians by adhering to citywide standards and practices.

- Policies:

  Develop citywide standards for construction and maintenance of bikeways and pedestrian walkways.

  Develop and adopt a planned bikeway system that is consistent with the County of Orange Master Plan of County-wide Bikeways, and other adopted Master Plans, to assure that local bicycle routes will be compatible with routes or neighboring jurisdictions.

  Maintain existing pedestrian facilities and require new development to provide pedestrian walkways between developments, schools, and public facilities.

  Where appropriate, require proposed developments adjacent to proposed bikeway routes to include bicycle paths or lanes in their street improvement plans and to construct the bicycle paths or lanes as a condition of approval.

  Construct safe, convenient paths for bicycles and pedestrians so as to encourage these alternative forms of transportation.

  Require plans for bicycle and pedestrian facilities to give priority to providing continuity and closing gaps in the bikeway and sidewalk network.

  Develop programs that encourage the safe utilization of easements and/or rights-of-way along flood control channels, public utilities, railroads, and streets wherever possible for the use of bicycles and/or pedestrians.

  Develop a comprehensive pedestrian circulation plan that facilitates pedestrian traffic in major activity areas.

  Ensure accessibility of pedestrian facilities to the elderly and disabled.

  Require the installation of sidewalks with all new roadway construction and significant reconstruction of existing roadways.

  Develop a plan and pursue funding for bicycle support facilities and cycling education/information programs.

3.17.2 Environmental Impact Analysis

a) Would the project conflict with a program plan, ordinance, or policy addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities?

Finding: Potentially Significant Impact

Implementation of the Project would result in an increase in demand for public transit, bicycle, and pedestrian systems, which would require the improvement and expansion of the circulation system, in addition to what was evaluated in the Housing Element Update. As such, an evaluation of the policies addressing potential impacts to these facilities is required, and this potentially significant impact will be further analyzed in the EIR.

b) Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Finding: Potentially Significant Impact

The proposed Project would change the City's zoning code to allow for increased and densified residential development at the identified Housing Opportunity Sites throughout the city. Traffic generated by future Project implementation, in additional to regional growth, could contribute to already congested traffic conditions in and around the City. In accordance with the City's VMT guidelines, the Orange County Transportation Analysis Model (OCTAM), or another similar model as approved by the City Engineer, would be used to evaluate the Project's potential impact on VMT. As such, an evaluation of Project consistency with the applicable VMT thresholds is required, and this potentially significant impact will be further analyzed in the EIR.

c) Would the project substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Finding: Less Than Significant Impact

As with the General Plan, Project implementation would result in the alteration and intensification of existing land uses in the city. Therefore, future residential development resulting from Project implementation would require individual evaluations of the roadway alignments, intersection geometrics, and traffic control features. Roadway improvements would be made in accordance with applicable roadway design guidelines, as well as the Caltrans Roadway Design Manual, in addition to the General Plan Circulation Element policies pertaining to roadway design and improving the safety of all users of the transportation system. Therefore, with adherence to all applicable guidelines, policies and requirements related to roadway design, Project implementation would not substantially increase hazards due to a geometric design feature or incompatible use, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

d) Would the project result in inadequate emergency access?

Finding: Less Than Significant Impact

As stated above, Project implementation would result in the alteration and intensification of existing land uses in the City which could result in inadequate emergency access if the new developments proposed under the Project are not designed to City standards and requirements. As such, future residential development resulting from Project implementation would be subject to review and approval by the City's Public Works Department to evaluate roadway alignments, intersection geometrics, and traffic control features, which would be made in accordance with all applicable local and state requirements related to emergency access and the safety of all users of the transportation system. Therefore, with adherence to all applicable guidelines, policies and requirements related to roadway design and emergency access requirements, Project implementation would not result in inadequate emergency access, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.18 TRIBAL CULTURAL RESOURCES

TRIBAL CULTURAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. 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	☒	☐	☐	☐
ii. 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 of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☒	☐	☐	☐

3.18.1 Environmental Setting

According to the City's General Plan, prehistoric occupation of the Seal Beach area was associated with the Gabrielino- Native Americans, who inhabited much of northern Orange County. The Gabrielinos were known for high population densities, complex social organization, and highly developed maritime economies. The Gabrielinos were in an area that extended from Ventura County to the north and San Bernadino County to the east. The tribes maintained a common language, material culture, and ceremonial and political systems. The Gabrielino community of Motuuchey was located in Seal Beach. In addition to the Gabrielino, it is understood that the Juaneno Native Americans, the neighboring tribe to the south, also frequented the Seal Beach area (City of Seal Beach 2003).

3.18.2 Environmental Impact Analysis

a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii. 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 of

Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

<u>i-ii) Finding</u>: Potentially Significant Impact

The County, as the CEQA Lead Agency, will consult with appropriate tribes with the potential for interest in the region. Based on this consultation, it will be identified if the proposed Housing Opportunity Sites are located in an area having the potential for tribal cultural resources. SB 18 states: "*Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe*."

In accordance with Assembly Bill (AB) 52 and SB 18, the City provided notice to the appropriate Native American Tribes on November 15, 2023, inviting them to participate and consult with the City through its AB 52 and SB 18 Native American outreach efforts. The results of the outreach and consultation effort will be described in the EIR. Therefore, this potentially significant impact will be evaluated further in the EIR.

3.19 UTILITIES AND SERVICE SYSTEMS

UTILITIES AND SERVICE SYSTEMS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐
b) Have sufficient water supply 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?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Environmental Setting

The City's current population is served by existing utility and service systems, as described below.

Water

The City a retail water supplier that provides water for its residents and their customers using the imported water supply obtained from its regional wholesaler, MWDOC and local groundwater from the Orange County Groundwater Basin, which is managed by the OCWD.

The City's Water Division operates three active groundwater wells, an active service connection with MWDOC, emergency interconnections with other utilities, two reservoirs with a total storage capacity of seven million gallons (MG), two booster stations, four disinfection sites, approximately 680 hydrants and manages 74.8-mile water mains system with about 5,346 service connections. Water use within the City's service area has been relatively stable in the past decade with an annual average of 3,482 acre-feet (AF) for potable use. In Fiscal Year 2019-20, the City's water use was 3,273 AF of potable water (groundwater and imported). In Fiscal Year 2019-20, the City relied on 65 percent groundwater and 35 percent imported water. There is currently no recycled water available for use within the City's service area (City of Seal Beach 2021).

Wastewater

The City does not own or operate wastewater treatment facilities but owns and operates the wastewater collection system in its service area that sends all wastewater to Orange County Sanitation District (OC San) for treatment and disposal. The sewer system service area encompasses about 1,705 acres and includes approximately 34 miles of sewer main, serving about 5,000 customers.

The wastewater collected in the City's system is conveyed to OC San's extensive system of gravity flow sewers, pump stations, and pressurized sewers. Ultimately, the wastewater is treated at OC San treatment plants in Fountain Valley (Plant No. 1) and Huntington Beach (Plant No. 2). Plant No. 1 has a total rated primary capacity of 108 million gallons per day (MGD) and a secondary treatment capacity of 80 MGD. Plant No. 2 has a rated primary capacity of 168 MGD and secondary treatment capacity of 90 MGD. Both plants share a common ocean outfall, but Plant No. 1 currently provides all its secondary treated wastewater to OCWD's Groundwater Replenishment System (GWRS) for beneficial reuse. The 120-inch diameter ocean outfall extends 4 miles off the coast of Huntington Beach. A 78-inch diameter emergency outfall also extends 1.3 miles off the coast. In 2020, 2,520 AF of wastewater was collection from the City (City of Seal Beach 2021).

Stormwater Drainage

The City has two drainage systems – the sewer and the storm drains. Sewers carry waste to a sewage treatment plant where the water is cleaned and then reused or deposited into the ocean away from beaches. The storm drain system was designed to solely prevent flooding of City streets by carrying excess rainwater out to the ocean. Much of the City's runoff drains into the Navel Weapons Base with the remainder split between the Pacific Ocean, Coyote Creek, and the San Gabriel River (City of Seal Beach 2023d).

Solid Waste

The City contracts with Republic Services to provide trash, recycling, and green waste collection for all City residents and commercial businesses (City of Seal Beach 2023c).

Other Utilities

Southern California Gas Company is the gas provider and Southern California Edison is the electricity provider for the City.

3.19.2 Environmental Impact Analysis

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Finding: Potentially Significant Impact

The Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, does not directly result in development. Future housing developments facilitated by the Project would be subject to individual environmental review and would occur incrementally as market conditions allow and at the discretion of the individual property owner. Under implementation of the Project, redevelopment of underutilized sites could accommodate a total of approximately 205 new housing units and potential rezone parcels could accommodate a total of approximately 1,628 new housing units. Based on this, by implementing the Project, the City would be able to provide approximately 1,833 additional housing units. The addition of approximately 1,833 additional housing units would result in increased demand to water, wastewater, stormwater, and other utilities and its facilities. This increase in demand could require or result in the relocation or construction of new or expanded utility facilities and could result in a potentially significant impact. Therefore, this impact will be evaluated in the EIR.

b) Would the project have sufficient water supply available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Finding: Potentially Significant Impact

Implementation of the Project could result in approximately 1,833 additional housing units in the City which would increase demand for water supply. The Project would require an evaluation of water supply needs, which would include an analysis of the sufficiency of available and new water supplies to serve the Project, in addition to reasonably foreseeable development. As such, this potentially significant impact will be evaluated in the EIR.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Finding: Potentially Significant Impact

Implementation of the Project could result in approximately 1,833 additional housing units in the City which would increase demand for wastewater treatment. This increased demand could result in a determination by the wastewater treatment provider that it does not have capacity to serve the projected demand and could result in a potentially significant impact. Therefore, this impact will be evaluated in the EIR.

d) Would the project 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?

Finding: Less Than Significant Impact

According to CalRecycle, in 2022 the City's residential population had a solid waste disposal rate of 6.3 pounds per day per person, and the City had a total disposal amount of 28,468 tons annually (CalRecycle 2022). According to the DOF, as of January 2023, the City is estimated to have a persons per household rate of 1.83 persons per household (DOF 2023). Therefore, as implementation of the Project would provide approximately 1,833 additional housing units to the City, the 1,833 additional units would be anticipated to result in a population of 3,354 people. Using the disposal rate provided by CalRecycle, the 3,354 residents would result in a generation of approximately 21,130 pounds per day (10.6 tons per day) of solid waste. This would result in an increase of 3,869 tons of solid waste generated by the City annually. As identified previously, the City had a total annual disposal amount of 28,468 tons in 2022. The potential increase in solid waste generated by implementation of the Project would represent a 14 percent increase in solid waste generated by the City per day and annually. This is not anticipated to result in significant impacts, as buildout of the additional residential units would take place over time and solid waste generated would increase incrementally over time as the additional residential units are constructed.

Future residential development resulting from Project implementation would be required to comply with City Municipal Code Section 11.4.10.025, Recycling and Solid Waste Facilities, which includes standards for solid waste and recycling areas. Additionally, construction activities associated with development of the Housing Opportunity Sites identified in the Housing Element Update would be required to comply with all City construction and demolition waste requirements. City Municipal Code Chapter 9.65, Recycling and Diversion of Construction and Demolition Waste, outlines requirements such as preparation of a waste management plan, diversion requirements for construction and demolition debris, and reporting requirements. Future residential development resulting from Project implementation would not generate solid waste in excess of standards or capacity of infrastructures and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Finding: Less Than Significant Impact

Exiting regulations related to solid waste include AB 939 California Integrated Waste Management Act, AB 341, AB 1327 California Solid Waste Reuse and Recycling Act of 1991, California Green Buildings Standards Code, and the City Municipal Code Section 11.4.10.025, Recycling and Solid Waste Facilities, and Chapter 9.65, Recycling and Diversion of Construction and Demolition Waste. The Project would be required to adhere to all relevant existing statutes and regulations related to solid waste, including waste diversion and reduction measures adopted by the City. Compliance with existing statutes and regulations would ensure that future residential development resulting from Project implementation are constructed

and operated in accordance with solid waste statues and regulations, and this impact would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.20 WILDFIRE

WILDFIRE Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones;				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 Environmental Setting

The City and Project area are surrounding by urban and developed lands. The neighborhood of College Park West is identified by the City as a community of risk to wildfire as a result of its isolation, proximity to open space areas, topographic conditions, and regional wind patterns (City of Seal Beach 2003). The Housing Opportunity Sites and surrounding vicinities are not identified as communities at risk and do not contain land designated as a VHFHSZ (CAL FIRE 2023a).

The Housing Opportunity Sites are located within the jurisdiction of the OCFA Division 1. The majority of the City, including the Housing Opportunity Sites, are located within a Local Responsibility Area, as much of the City has been identified as have a low risk for wildfire. Furthermore, Federal Responsibility Areas (FRAs) are located in the central portion of the City, encompassing Seal Beach NWR, Joint Forces Training Base, and the Seal Beach Naval Weapons Station (CAL FIRE 2023c).

The City's General Plan Safety Element includes the following goals and policies related to wildfire hazards (City of Seal Beach 2003):

- Policy 1A: Periodically review and update the Emergency Operations Plan to ensure effective implementation of the Plan during an emergency. Incorporate into the Plan as appropriate:
    - a citizen response model using a neighborhood coordinate system, such as a Neighborhood Watch program;

  - a comprehensive communications component that maximizes public emergency coordination, response and resource allocation;
  - a program of coordination with county, regional, state, and federal emergency agencies, schools, hospitals, and utility companies and their plans; and
  - a program of coordination with the police.

- Policy 1B: Amend the Emergency Operations Plan to include evacuation plans, and include provisions for emergency shelter, transportation, clothing, food and medical aid, identifying the facilities and persons within the community that may be utilized in an emergency and communicating this information to neighborhood associations and the American Red Cross.
- Policy 4A: Ensure that adequate facilities and fire service personnel are maintained based on population, fire hazards in and around the City and a performance standard of an average total reflect time of seven minutes or less.
- Policy 4B: Educate and inform the public on fire safety, especially regarding landscaping installation and maintenance in urban areas, to further protect the community and the environment from unnecessary fire hazards.
- Policy 4C: Enhance the ability of all structures within the City to resist wildland and structural fires throughout ongoing, appropriate and cost-effective changes to the City's Zoning, Building and Fire Codes and standards.
- Policy 4D: Work with the Water Department and OCFA to analyze the supply and delivery of the water system for fire fighting use to help identify and correct deficiencies.
- Policy 4E: Develop and early warning system of Santa Ana wind fire danger to alert the public of possible precautions or safety measures that may be taken during those critical times.
- Policy 4F: As a condition of new development, require private responsibility for development and maintenance necessary new fire flow water lines and hydrants in accordance with the recommendations of OCFA.
- Policy 4G: Encourage property owners to create defensible space surrounding their homes, including providing access for firefighters, maintaining planting and outdoor areas, and minimizing combustible structures.

3.20.2 Environmental Impact Analysis

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Finding: No Impact

Project implementation would not occur within a SRA or VHFHSZ. Furthermore, the City has prepared an EOP and a LHMP to ensure protection of City residents in times of emergency and to identify local hazards and provide measures to address these hazards (City of Seal Beach 2017). Future residential development resulting from Project implementation would be required to comply with applicable fire and building codes and would be required to be reviewed by OCFA's Community Risk Reduction Division prior to approval. Additionally, Project implementation would be required to comply with policies identified in the General Plan to ensure effective emergency response. Compliance with General Plan policies, applicable fire and building codes, and the City's Emergency Operations Plan and LHMP would ensure that Project implementation would not substantially impair an adopted emergency response plan or evacuation plan, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

b) Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

b-d) Finding: No Impact

The Project proposes rezoning program to accommodate the planning of low- and moderate-income housing, as required by the state's RHNA allocation for the City. As Project implementation would not occur within an SRA or VHFHSZ, the Project would entail the redevelopment and rezoning of the Housing Opportunity Sites identified in the Housing Element Update. Future development resulting from Project implementation would be required to adhere to a wide range of state and local codes pertaining to fire protection and would be required to comply with OCFA requirements. Adherence to City and County requirements and Project review by the OCFA Community Risk Reduction Division would minimize impacts resulting from Project implementation to the extent possible and would ensure that new development would not exacerbate fire hazards and would not expose people or structures to significant risks associated with post-fire landslides, mudflows, and flooding. Therefore, with implementation of applicable state and local codes and adherence to the City and County requirements, Project

implementation would not exacerbate fire risks or expose people or structures to significant risks, and there would be no impact.

Project implementation would result in the parcels being converted for additional housing and would result in construction and installation of associated infrastructure to accommodate new development. Associated infrastructure would be constructed in accordance with City and County requirements and regulations and would be required to adhere to the measures in the individual requirements for new infrastructure to minimize potential impacts. Additionally, future residential development resulting from Project implementation would be required to implement General Plan policies identified to minimize risk from wildfire hazards. With adherence to applicable building practices and requirements, infrastructure associated with Project implementation would not exacerbate fire risk, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

3.21.1 Environmental Impact Analysis

a) Would the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Finding: Potentially Significant Impact

Project implementation would result in potentially significant impacts to biological and cultural resources, and these impacts will be further analyzed in the EIR. Consultation pursuant to AB 52 and SB 18 is currently being conducted and has not yet been completed at the time of this document. As such, impacts related to tribal cultural resources are potentially significant and will be analyzed further in the EIR.

b) Would the project have impacts that are individually limited, but cumulative considerable? ("Cumulative considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?

Finding: Potentially Significant Impact

The proposed Project, in conjunction with other past, present, and reasonably foreseeable future related projects, has the potential to result in significant cumulative impacts when the independent impacts of the

proposed Project and the impacts of related projects combine to create impacts greater than those of the proposed Project alone. A list of the related projects or growth projections will be developed for the EIR. The potential for the proposed Project in conjunction with the related projects and their cumulative contributions to environmental impacts will be evaluated in the EIR.

The cumulative impacts addressed in the EIR will be the same as the individual resource areas which will be evaluated in the EIR. The extent and significance of potential cumulative impacts resulting from the combined effects of the proposed Project plus other past, present, and reasonably foreseeable future projects will be evaluated in the EIR.

c) Would the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Finding: Potentially Significant Impact

As described in this Initial Study, implementation of the proposed Project could result in impacts to human beings resulting from potential air quality and GHG emissions, noise, transportation, and water quality impacts. Therefore, further analysis of these potential impacts is required, and potential impacts will be evaluated in the EIR.

4.0 REPORT PREPARATION

4.1 LIST OF PREPARERS

Preparers	
Trevor Macenski	Senior Principal; Principal in Charge
Anna Radonich	Principal Environmental Planner; Project Manager
Emily Medler	Environmental Planner
Jennifer Webster	Environmental Planner
Kaela Johnson	Environmental Planner; GIS

5.0 REFERENCES

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WRITTEN COMMENTS RECEIVED AS PART OF NOP PUBLIC SCOPING PROCESS

Megan Coats

From: Alejandro Sanchez-Lopez <Alejandro.Sanchez-Lopez@longbeach.gov>
Sent: Friday, December 15, 2023 4:42 PM
To: Alexa Smittle
Cc: Alison Spindler-Ruiz
Subject: City of Long Beach public comment on the City of Seal Beach Housing Element and Zoning Code Updates Project Environmental Impact Report
Attachments: Seal Beach Housing Element EIR Letter of Support.pdf

Greetings,

Please find attached public comment submitted on behalf of the City of Long Beach's Community Development Department regarding City of Seal Beach's Housing Element and Zoning Code Updates Project (Project) Environmental Impact Report (EIR). Please do not hesitate to contact me with any questions.

Best,

Alejandro Sánchez-López
Advance Planning Officer
Community Development | Planning Bureau/Advance Planning Division
411 W. Ocean Blvd., 3rd Fl. | Long Beach, CA 90802
Office: 562.570.6553

CITY OF LONG BEACH

Community Development Department
Planning Bureau
411 West Ocean Boulevard, 3rd Floor, Long Beach, CA 90802
562.570.6194

December 15, 2023

Alexa Smittle
City of Seal Beach
Community Development Department
211 Eighth Street
Seal Beach, CA 90740

Dear Ms. Smittle:

On behalf of the Community Development Department for the City of Long Beach, I am writing this letter in strong support of the City of Seal Beach's Housing Element and Zoning Code Updates Project (Project) Environmental Impact Report (EIR) adopted on February 7, 2022 and updated August 24, 2023. This endeavor showcases the City's commitment to addressing the regional housing crisis while adhering to state legislation and the current Regional Housing Needs Allocation (RHNA).

The Housing Element includes provisions for our most vulnerable populations allocating 459 of 1,243 new units for low- and very low-income households, such as unhoused people, seniors, single-parent households, large families, and persons with disabilities. These allocations align with Long Beach's goals and commitment to foster and protect our diverse communities and ensure housing opportunities are accessible for everyone. Moreover, we appreciate the effort to locate and utilize underdeveloped sites across the city in order to not overly concentrate lower income housing in low-resource areas and to create a "buffer" of 15 to 30 percent above the stated RHNA allocation to account for "No Net Loss" provisions of Senate Bill 166. This will guarantee much-needed housing that is sufficient for the growing regional population and protect hard-working families. The EIR shows that the Project has provided necessary environmental evaluations, analysis, and mitigation measures in terms of air quality, greenhouse gases, and transportation. The fact that the Housing Element will provide housing in various locations across the city allows for equitable and sustainable growth, and a more responsive and resilient community.

We encourage the City to ensure that sites are designated for low- and moderate-income housing and that if market-rate housing is approved on these sites, new sites are identified and approved for low-income housing throughout the City to make up for lost capacity and maintain geographic equity. Further, we believe the City should maximize public participation and engage not only affected property owners, the Building Industry Association, and affordable housing developers, but also community members, non-profit organizations, faith-based institutions,

renter associations, and the populations they are trying to protect during the entirety of this rezoning effort.

We believe the Project will provide affordable housing in opportunity areas, alleviate zoning constraints on the current housing inventory, and help achieve regional and state housing goals. The City of Long Beach Planning Bureau supports the Project and its associated EIR and looks forward to collaborating with Seal Beach in our shared efforts to provide inclusive and equitable fair housing opportunities for all.

Thank you for your attention to this matter and for your dedication to building a sustainable future.

Sincerely,

Alejandro Sanchez-Lopez

Alejandro Sanchez-Lopez
Advance Planning Officer
Long Beach Community Development
562.570.6553
Alejandro.sanchez-lopez@longbeach.gov

Megan Coats

From: Lugaro, Julie M@DOT <julie.lugaro@dot.ca.gov>
Sent: Friday, December 15, 2023 3:05 PM
To: Alexa Smittle
Cc: OPR State Clearinghouse
Subject: Comment Letter for the for the City of Seal Beach Housing Element and Zoning Code Updates Project - 12-ORA-2023-02430
Attachments: City of Seal Beach Housing Element and Zoning Code Updates Project - 12-ORA-2023-02430.pdf

Hello Ms. Smittle,

I have attached the Comment Letter for the for the City of Seal Beach Housing Element and Zoning Code Updates Project - 12-ORA-2023-02430.

If you have any questions, please contact me.

Thank you,

Julie Lugaro, M.S.
Associate Transportation Planner
Local Development Review / Climate Change Coordinator
California Department of Transportation
Caltrans, District 12
1750 E. 4th Street
Santa Ana, CA. 92705

California Department of Transportation

DISTRICT 12
1750 East 4th Street, Suite 100 | SANTA ANA, CA 92705
(657) 328-6000 | FAX (657) 328-6522 TTY 711
https://dot.ca.gov/caltrans-near-me/district-12

December 15, 2023

Ms. Alexa Smittle
Community Development Director
City of Seal Beach
211 Eighth Street
Seal Beach, CA. 90740

File: LDR/CEQA
SCH:2023110425
12-ORA-2023-02430

Dear Ms. Smittle,

Thank you for including the California Department of Transportation (Caltrans) in the review of the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the City of Seal Beach Housing Element and Zoning Code Updates Project. The Initial Study was prepared to analyze potential impacts related to implementation of the City's Housing Element and Zoning Code Update. The Housing Element identifies 13 Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's Regional Housing Needs Assessment (RHNA) allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed. Of the 13 Housing Opportunity Sites, six would require rezoning, one would be rezoned through a proposed Specific Plan, and one would require an amendment to the Main Street Specific Plan. The rezoning effort would also include the establishment of a new zoning designation, MC/RHD, which would apply to five of the Housing Opportunity Sites. This new zone district would facilitate housing for lower-income households as required by the state's RHNA allocation for the City and facilitate the inclusion of affordable units. Implementation of the Housing Element and Zoning Code Update would result in the City being able to accommodate 1,833 additional housing units pursuant to the City's RHNA allocation.

The Project site is currently comprised of 13 Housing Opportunity Sites dispersed throughout the City totaling approximately 278 acres. The City located at the northwestern edge of Orange County (County), California. It borders the City of Long Beach and Los Angeles County to the northwest, the Orange County Cities of Los Alamitos to the north, Westminster to the east, Huntington Beach to the southeast, and the Pacific Ocean to the west. The City has a land area of approximately 13 square

miles. State Routes 405, 22 and 1 reside within the project area and are owned and operated by Caltrans. Therefore, Caltrans is a responsible agency on this project, and has the following comments:

1. Caltrans supports opportunities for affordable housing, and the state mandates that cities must plan for housing needs of future residents of all incomes. Please provide an analysis and discussion that would assist in accommodating the Regional Housing Needs Assessment (RHNA) allocation per the California Department of Housing & Community Development (HCD).

2. Caltrans recognizes our responsibility to assist communities of color and under-served communities by removing barriers to provide a more equitable transportation system for all. The Department firmly embraces racial equity, inclusion, and diversity. These values are foundational to achieving our vision of a cleaner, safer, and more accessible and more connected transportation system. Please consider including a discussion on equity in the Environmental Impact Report (EIR).

3. Caltrans supports projects which provide a diversity of housing choices and destinations accessible by Active Transportation (i.e. bicycle and pedestrian) and transit users. Please consider improving multimodal connections to housing which will encourage future residents, visitors, and workers in the city to utilize all modes of transportation. Increasing multimodal transportation will lead to a reduction to congestion, Vehicle Miles Traveled, and improve air quality.

4. Caltrans seeks to promote safe, accessible, multimodal transportation. Please consider methods to reduce pedestrian and bicyclist exposure to vehicles by lessening the time that the user is in the likely path of a motor vehicle.
   - On pdf page 100, stating "Develop citywide standards for construction and maintenance of bikeways and pedestrian walkways.", please consider Caltrans guidelines on building separated cycle tracks infrastructure (DIB 89) -- https://dot.ca.gov/-/media/dot-media/programs/design/documents/dib-89-02-final-a11y.pdf.
   - On the same page, it is noted that "[developing] a planned bikeway that is consistent with the County of Orange Master Plan of County-wide Bikeways, and other adopted Master Plans, to assure that local bicycle routes will be compatible with routes or neighboring jurisdictions" -- please review OCTA's regional bikeways strategy to ensure alignment with existing plans, found here: https://www.octa.net/getting-around/active/oc-bike/bikeways-planning/overview/

5. Caltrans encourages the design of Complete Streets that include high-quality pedestrian, bicycle, and transit facilities that are safe and comfortable for users of all ages and abilities. This may include safety measures such as physically separated sidewalks and bike lanes, pedestrian-oriented LED lighting, high-visibility continental crosswalk striping, raised crosswalks, refuge islands, wayfinding signage, and safe connections to existing and proposed bicycle facilities. Complete Streets improvements promote regional connectivity, improve air quality, reduce congestion, and increase safety for all modes of transportation. (see Caltrans' Director's Policy on Complete Streets here https://dot.ca.gov/-/media/dot-media/programs/esta/documents/dp-37-complete-streets-a11y.pdf)

6. For guidance on providing functional bike parking, see the attached "Essentials of Bike Parking" guidance created by the Association of Pedestrian and Bicycle Professionals (link to online PDF: https://www.apbp.org/Publications).

7. During future construction, please ensure appropriate detours, signage, and safety measures are planned that prioritize and ensure the safety and mobility of pedestrians, bicyclists, and transit users.

8. Ensure that truck parking, ingress and egress, and staging will not interfere with vehicle parking, pedestrian paths, or bicycle lanes/bicycle parking. Work with community representatives to mitigate any truck traffic routing onto residential streets or conflicting with other road users, including and especially bicyclists and pedestrians.

9. Please identify the existing transit services for local and regional bus services including the connectivity to rail services from the nearest train stations provided by Metrolink and/or Amtrak Pacific Surfliner. Also, please provide adequate wayfinding signage to transit stops within all the project vicinity and local roadways.

10. Consider how many individual packages will be delivered daily to individual residences within the areas identified for increased housing production. Shared drop-off locations can help reduce the amount of driving done by delivery trucks and can increase the efficiency of deliveries in densely developed areas. Similarly, high-density residential developments should consider automated parcel systems (i.e., Amazon Lockers) so that deliveries can be made with one truck stop instead of multiple stops to individual residences.

11. Consider accounting for off-street truck parking to help free up on-street space for other modes, such as city traffic, walking, and bicycling. Similarly, utilize alley space or similar areas, if available, to reduce the need for on-street parking which may conflict with highway/street flows.

12. If truck parking (i.e., for home deliveries) is to be on-street, ensure the width of the parking lane is wide enough for freight trucks without encroaching on bicycle lanes or street lanes.

13. Please consider designated on-street freight-only parking and delivery time windows to reduce the need for double parking. This strategy also helps prevent street traffic congestion.

14. Please note that this project should not present adverse impacts to the overall transportation system including: traffic circulation and the local State Highway Systems (SHS). Caltrans is requesting a Traffic Impact Analysis (TIA) that focuses on the State facilities that would be impacted by future developments.

15. The TIA will also need to assess and address new developments, the City's rezoning requirements, and multi-modal impacts. The results of these impacts will need to include an investigation and discussion of signal timing upgrades in order to accommodate the increase of both vehicular and pedestrian traffic.

16. A section of the TIA will also need to focus on how future developments could impact the Senior population as well as local pedestrian facilities that cater to this population.

17. When analyzing the proposed projects potential short- and long-term traffic impacts with respect to regional vehicle miles traveled (VMT's), please use the Governor's Office of Planning and Research Guidance to identify VMT related impacts and add the analysis results to the TIA.

18. Any project work proposed in the vicinity of the State Right-of-Way (ROW) would require an encroachment permit and all environmental concerns must be adequately addressed. If the environmental documentation for the project does not meet Caltrans's requirements for work done within State ROW, additional documentation would be required before approval of the encroachment permit. Please coordinate with Caltrans to meet requirements for any work within or near State ROW. For specific details for Encroachment Permits procedure, please refer to the Caltrans's Encroachment Permits Manual at: http://www.dot.ca.gov/hq/traffops/developserv/permits/

19. Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (657) 328-6553 or D12.permits@doct.ca.gov. Early coordination with Caltrans is strongly advised for all encroachment Permits. For specific details on Caltrans Encroachment Permits procedure and any future updates regarding the application process and permit rates, please visit the Caltrans Encroachment Permits homepage at https://dot.ca.gov/programs/traffic-operations/ep.

Caltrans' mission is to provide a safe, sustainable, equitable, integrated, and efficient transportation system to enhance California's economy and livability. 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,
LDR-Climate Change-Transit Planning
Caltrans, District 12

Megan Coats

From: ANNE CALVO <limeyanne@msn.com>
Sent: Friday, December 8, 2023 12:34 PM
To: Alexa Smittle
Subject: Comments - Seal Beach Housing Element Environmental Impact Report

Follow Up Flag: Follow up
Flag Status: Flagged

To: Alexa Smittle ASmittle@sealbeachca.gov
From: Anne Calvo limeyanne@msn.com
Subject: Comments - Seal Beach Housing Element Environmental Impact Report

I am a Leisure World resident and watched the recent Environmental Quality Control Board Meeting of December 6, 2023. I am encouraged that the Board is critically evaluating the various 13 "opportunity sites."

My comments concern site #2 Leisure World 5.5 acre site, now currently an RV storage area. I believe this site should be no longer considered on the Seal Beach Housing Element opportunity site list for the following reasons.

General Reasons

Leisure World is a unique, over 55 senior community that was founded to serve low to medium fixed income and residents. The site is "built out" and is currently struggling to meet challenges in utility infrastructure (water, electric, sewer, drainage, etc.), maintenance and repairs. An additional block of development would require severe infrastructure upgrades and would necessarily cause an avalanche of related unintentional adverse impacts.

The RV storage site is reserved for the residents of Leisure World and if taken away would deprive the residents of a long-standing amenity. Please note that another site in Seal Beach used for RV storage is also on the Opportunity Site list. If both were converted to housing, it would cause a crisis to many RV owners in Seal Beach.

Environmental Impact Reasons

Aesthetics - The 5.5-acre site is located on the edge of the tidal / drainage ditch adjacent to the Los Angeles Steam Plant. A multi-story building would look out and down on industrial and existing residents and amenities. It would also block sunlight on several residential buildings.

Air Quality – Air quality in the area is known to be a concern. Additional vehicles would certainly have adverse impact to residents.

Energy Use and Demand – Leisure World is comprised of all-electric residences and there have been numerous spot outages due to failures of the 60+ year old system structures. Vehicle charging stations in carports are currently being considered and their impact is yet unknown. The addition of a large multi-story building would significantly multiply those concerns.

Land Use and Planning - Another multi-storied residential building with associated parking requirements was never anticipated. The added residents, utilities, vehicles, recreation needs, etc. will stress the ability of the current systems to deliver services and reduce the quality of life by limiting access to existing amenities.

Noise - Leisure World is surrounded on all sides by either high volume / noisy traffic or the power plant. In addition, the airplane landing pattern zone is directly overhead. The added multi-story building would amplify sound levels to nearby residents and subject residents of the new building to unacceptable noise levels without expensive noise attenuation measures.

Population and Housing Constraints - The RV site is 5.5 acres. Using the assumed 150 units in the proposed multi stored building x 1.83 residents per unit assumes at least 275 more residents in Leisure World in addition to the 9,600 or so existing residents confined in a walled environment. Leisure World is already considered a high-density environment and any such development would be an additional burden. The quality of life for all residents would suffer in a very significant way. Traffic, use of amenities, recreation, congestion, the list of impacted services is endless. It is also assumed that the influx of non-resident traffic and people would increase existing levels of crime within our walls.

Public Services - Leisure World is blessed to having a fire station outside of the North gate. It gives an assurance of a timely response in an emergency. It is used for resident response on a daily basis. However, since that fire station also responds to other cities in the area, it cannot be relied upon for a timely response. An additional multi-story 150-unit residential building in an already congested area would severely increase the risks to response time, as well as to response time for the police and Leisure World security. Emergency planning would need to consider the availability of fire trucks with ladders and labor intense demands when evacuating hundreds of elderly residents.

Recreation - There is already limited greenspace and recreation opportunities within the walls. Removing the RV storage would immediately stress and eliminate access to an aged population access to their RV's and cause unknown adverse impacts to their timely access to recreational opportunities.

Transportation - Traffic congestion, parking in carports, off-street parking near carports, and street parking already are a significant issue. There are only two streets with four lanes in Leisure World. The increased parking on the 2-laned streets will greatly narrow the space for the through traffic to pass. Additionally, traffic of other types of vehicles (golfcarts, bicycles, electric bikes, standup scooters, seated scooters, electric and regular wheelchairs, etc.) already happens on a regular basis due to the age of residents. These existing problems would increase in severity and frequency.

Utilities and Service Systems - As mentioned previously, demand and maintenance needs to all utilities and associated service systems in Leisure World are at maximum capacity. An additional 150-unit multi-storied residential building is foolish and would have significant adverse consequences that can easily be predicted.

In summary, I believe that the Housing Element "opportunity site" targeting the 5.5-acre site in Leisure World is not an "underutilized" site. It is a long standing and important amenity used by residents. Development of the site is also inconsistent with the Seal Beach Safety Plan. It would cause both anticipated and unanticipated adverse impacts to the quality of life to residents of Leisure World.

Thank you,

Anne S. Calvo

Leisure World Resident

Megan Coats

From: Schelly Sustarsic
Sent: Friday, December 15, 2023 4:58 PM
To: Alexa Smittle
Subject: Comments for Zoning Code Scoping Period
Attachments: IMG_20231215_0001.pdf

My comments are attached.

Thank you.
Schelly Sustarsic
4288 Candleberry Ave.
Seal Beach
(562) 431-3466

December 15, 2023

To: Alexa Smittle, Director of Seal Beach Community Development

Comments for Zoning Code Update Scoping Period: Regarding Programmatic EIR for Housing Element

Aesthetics:

Public views will be blocked, and Open Space removed.

Glare can be a problem. Since housing sites 5, 6, and 10 are very near to a military runway and base, there should be a conversation with the JFTB to make sure that glare and lighting from the placement of housing units would not cause interference with their flight operations. Also, views of the adjacent base from the housing units may be considered a security issue for the JFTB.

Biological Resources:

There is a plan being developed to restore the former wetlands area now owned by the Los Cerritos Wetlands Authority (former Hellman property) to wetlands. The Authority has recently received a large grant from the California Coastal Conservancy to begin the project.

There is a tree preservation policy in Seal Beach – especially for *Eucalyptus* trees and groves.

Energy Resources:

Is the supply of energy adequate for all these housing units? Is adequate electrical infrastructure being planned and built to supply future electrically powered vehicles?

Geology and Soils: This is very important to consider as a fault crosses the City of Seal Beach, and the surrounding area is mostly a liquefaction zone.

Hazards and Hazardous Materials:

A 34" high-pressure gas line runs along the north side of Lampson Avenue. This places a safety issue adjacent to site 10, in the event there is a leak or rupture of the gas line and the risks associated.

Hydrology and Water Quality:

Seal Beach has problems with flooding in both the Old Town area and part of College Park East. College Park East (CPE) drains onto the Old Ranch Country Club (ORCC), which is a county flood control basin. The addition of housing projects and hardscape in the area surrounding must be carefully studied to not add to, block or compete with CPE's drainage to the ORCC.

Land Use and Planning:

A stated goal in the Seal Beach General Plan Land Use Element for Planning Area 4 (LU-43) is to "Discourage further encroachment onto the Los Alamitos JFTB flight path." This was written in 2003 after a development project by Bixby developed most of the open space north of I-405. This included the Old Town Ranch Center, the Ayers Hotel and the adjacent shopping center, the Sunrise senior care facility, 78 housing units to the north and behind Target, and a remodel of the Old Ranch Country Club golf course. As part of the latter, a public driving range was built. As part of the Bixby development agreement, a development restriction was put in place to restrict zoning in Area C to recreation/golf/open space for 30 years, until 2029.

I have included diagrams of the flight paths at the JFTB, taken from an "Environmental Assessment Stationing a U.S. Army Reserve Black Hawk Helicopter Company at Joint Forces Training Base Los Alamitos, California" (March 2011). The EA was performed when additional Blackhawk helicopters were being added to some that were already on base. Flight paths are shown for both rotary and fixed wing aircraft. Aircraft at the JFTB are predominately helicopters, but there are fixed wing present, including 4 Cessnas which have been added since 2011 and planes that fly daily as part of the Medfly Preventative Release Program. The departure path from the JFTB is curved, with aircraft departing from the military runways southwesterly over the Old Ranch golf course, turning to fly over the Seal Beach Naval Weapons Station to the ocean. Approximately 8% of the time, this path is used as an approach during reverse conditions. Pilots are instructed not to overfly any residential area.

The JFTB serves as an Emergency Operation center in times of natural disaster such as earthquakes, or riots, or an event such as a terrorist attack (both Federal and state emergencies). It is the only active military airport remaining in Los Angeles and Orange Counties. As such, a variety of other aircraft visit and/or train at the facility. Large, fully loaded aircraft, such as C-5 cargo planes, cannot make this turn in the flight path but must fly straight out from the runway on departure. I have attached a diagram of safety zones that were present when the base was known as the Armed Forces Reserve Center. The runway protection zones (APZ-1 and APZ-2) can be seen on the golf course. The safety zones were pulled onto base before Bixby developed its property, using Air Force criteria in the 1980s, apparently based on the airfield's accident history, or number of flights. The number of flights has increased since that time and when the AELUP was being updated by the Airport Land Use Commission in 2016-17, Caltrans Aeronautics urged the base to update its safety zones to agree with how the base was currently operating. This was not done, apparently due to a lack of funding to perform a needed AICUZ study, and the AELUP for the JFTB remained mostly unchanged. I was told that as of 2018, policy now requires that a military airfield follow the regulations of its own service -- Army regulations for the JFTB, Los Alamitos.

Noise:

A military airport is adjacent to sites 5, 6, and 10. While most of the noise from the JFTB base is due to helicopter traffic, other aircraft fly in and out of the base. The noise contours in the AELUP are based on noise over a 24-hour period (CNEL) and the airfield generally does not operate at night. However, when jets depart the airfield, they produce noise of up to 140 decibels. Cargo planes are loud as well but contribute to annoyance, not necessarily inside the noise contours. Helicopters also push noise down, to the right, as they fly past.

for JFTB Los Alamitos found in Appendix D.

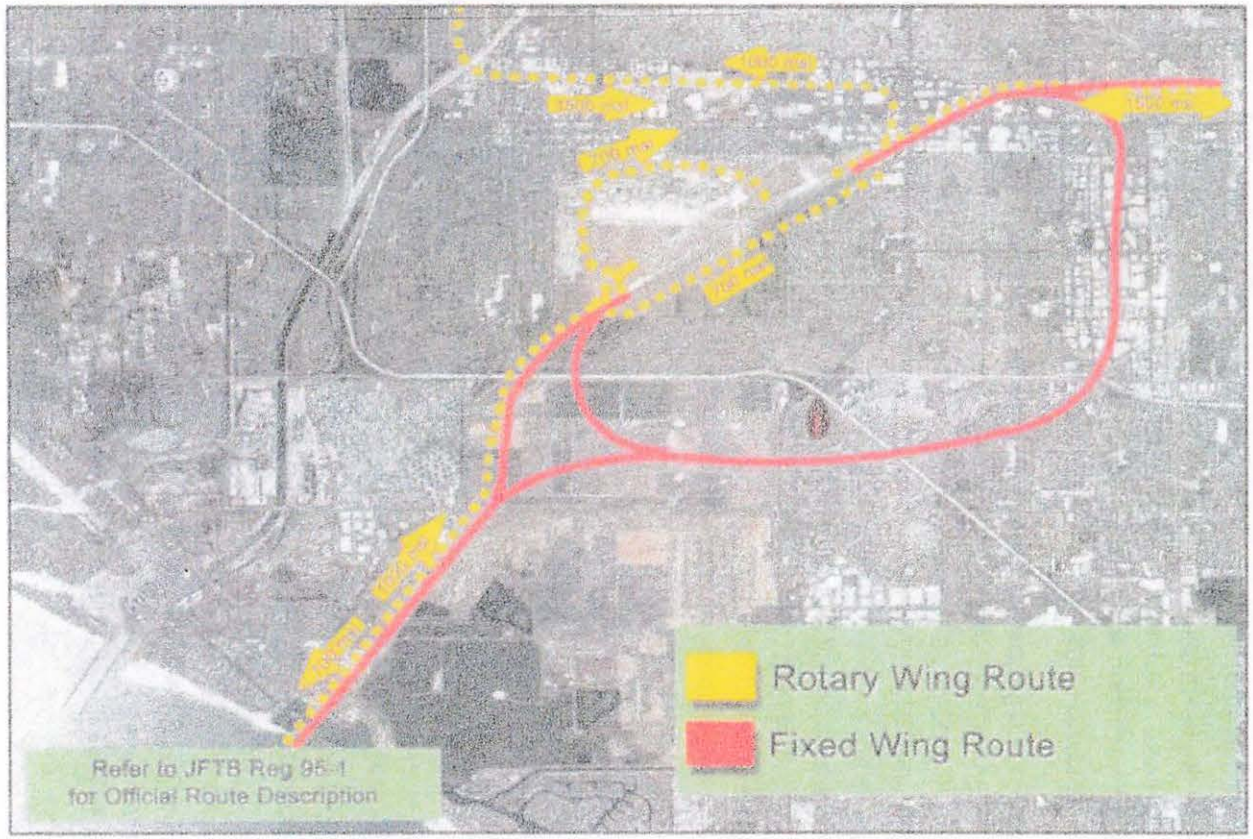


Figure 3-3. JFTB Los Alamitos Flight Paths

3.2.2 Environmental Consequences

In 1973, the DoD implemented the Air Installation Compatible Use Zone (AICUZ) program to protect the health, safety, and welfare of those living or working on or near military air installations by promoting compatible land use development on and off air installations. The current AICUZ study was prepared by the CAARNG in 1994 to address aircraft operations at the Installation and provides land use guidance for the Installation. The AICUZ program is discussed in more detail in Section 3.14, *Health and Human Safety*.

Los Alamitos Army Airfield (LAAAF) is one of the busiest DoD aviation operations in the continental United States. Located in one of the most congested and heavily flown airspace systems in the U.S., the JFTB's control tower is one of the most active in Southern California (CAARNG, 2007b). The JFTB Regulation 95-1 sets forth the rules, regulation, and instruction for operations at the airfield (CAARNG, 2006). The Control Tower is open for operations 15 hours daily Tuesday through Friday, 7:00am-10:00pm PST, and eight hours daily Saturday through Monday, 8:00am-4:00pm PST. Aircraft will not be cleared for flight unless a flight plan has been completed and filed at LAAAF Operations. Rotary wing traffic patterns and procedures are determined by several factors, i.e., the weather, the landing runway used by fixed wing aircraft, traffic, and noise abatement procedures (CAARNG, 2006). Established flight paths for rotary and fixed wing aircraft are shown in Figure 3-3 and in greater detail in the Helicopter Procedure Guide for JFTB Los Alamitos found in Appendix D.

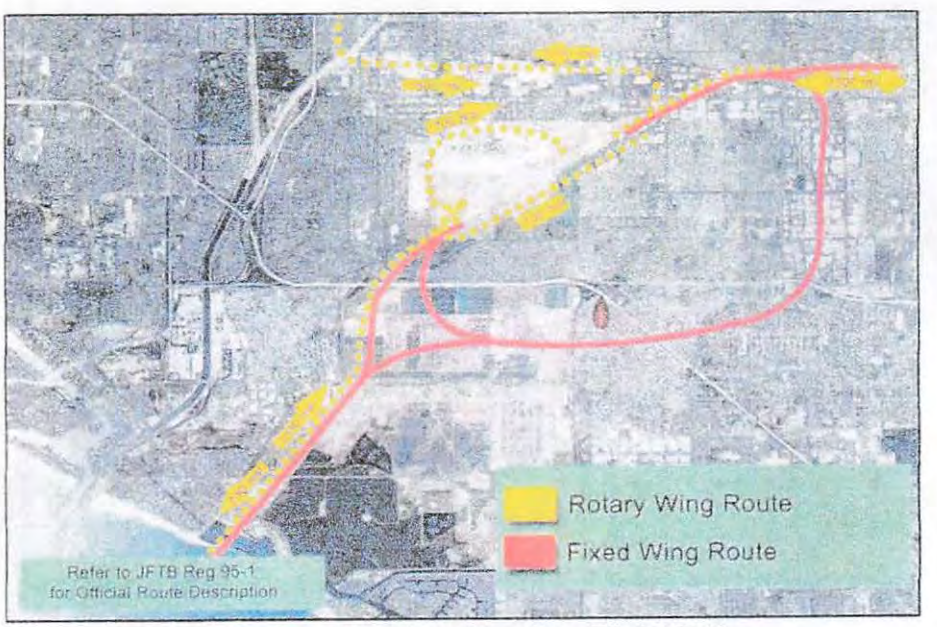


Figure 3-3. JFTB Los Alamitos Flight Paths

3.2.2 Environmental Consequences

Alternative One

Implementation of the Proposed Action would have no direct impact to land use on or surrounding the Installation. The overall use of the Installation is compatible with the unit's mission. JFTB Los

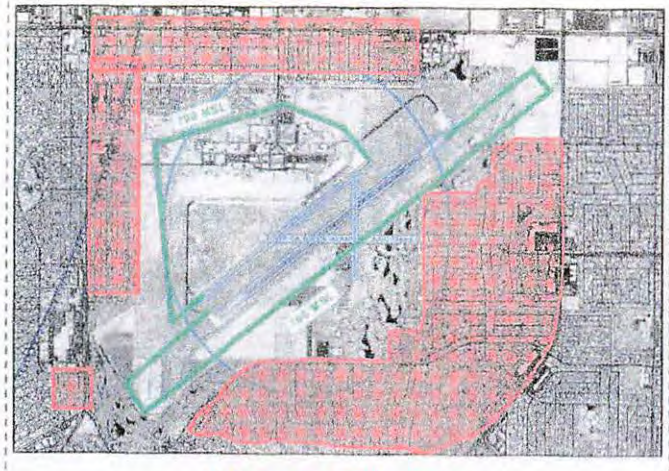
Helicopter Procedure Guide
Los Alamitos Army Airfield
Joint Forces Training Base, Los Alamitos, Ca
"Home to the California Army National Guard Aviation"

NOISE ABATEMENT

Los Alamitos Army Airfield (AAF) is located in extreme proximity to several highly concentrated residential areas. Los Alamitos AAF institutes a Noise Abatement Program which incorporates unique traffic patterns and arrival/departure procedures. The program focuses on pilot education and cooperation which also benefits the immediate surrounding residential communities of Los Alamitos, Seal Beach, Garden Grove, and Cypress, by reducing the adverse impact of noise during aviation operations. Helicopter aircrews participating in aviation operations at Los Alamitos AAF are expected to know and adhere to the noise abatement flight procedures. Compliance with flight procedures is mandatory unless deviations are made necessary by weather, ATC instructions, an in-flight emergency, or other safety considerations. Repeat violators of noise abatement flight procedures may be restricted or suspended from using the airfield. The goal of Joint Forces Training Base is to maintain positive relationships with surrounding communities, so it is imperative participating helicopter aircrews personally attempt to reduce the adverse impact of helicopter noise. Following the procedures outlined in this Helicopter Procedures Guide accomplishes this goal. For questions regarding the Los Alamitos AAF Noise Abatement Program contact the Los Alamitos AAF Operations at (562) 795-2571.

HOURS of OPERATION

ATC Tower - Sat-Mon 0800-1600 / Tue-Fri 0700-2200
GCA - Mon 0800-1600,Tue-Thu 0700-2200, Fri 1400 2200
Airfield Operations - Sat-Mon 0730-1600 / Tue-Fri 0600-2200
Airfield WX - Sat-Mon 0730-1600 / Tue-Fri 0600-2200
Airfield Services (JP-8) - Sat-Mon 0800-1530, Tue-Fri 0700-2130



Helicopter Traffic Pattern

700 ft MSL

-Traffic pattern is **NON STANDARD.**

- Helicopters will normally operate from runways 22L / 22R based on predominate winds, and use traffic patterns as depicted on the above airfield diagram depicted in this Helicopter Procedures Guide.
- Pilots will operate aircraft in such a manner that noise in the vicinity of residential areas that surround the airfield will be minimized.
- Helicopters will avoid over flight of noise sensitive areas which include all residential areas and are shaded in red. By operating well inside installation boundaries during traffic pattern operations as much as possible, participating helicopters will aid in minimizing the adverse noise impact upon residential areas.

DO NOT OVERFLY ANY RESIDENTAL AREAS

South Arrival / Departure VFR

Arrival – 1000 ft MSL Departure – 700 ft MSL

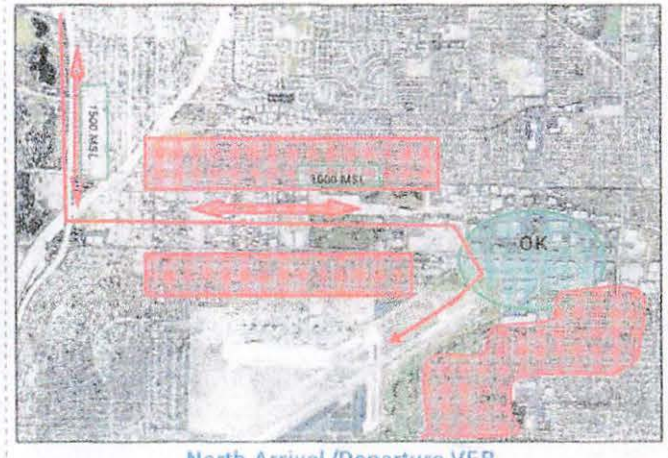
- ARRIVAL: The South Arrival procedure begins at A heim Bay at the boundary of KSLI Class D airspace
- From Anaheim Bay at 1000 ft MSL, proceed direct Naval Weapons Station Seal Beach (NWSSB) to O Ranch Country Club (golf course). Descend to 700 MSL and enter left downwind for RWYs 22L / 22R ceed direct to RWYs 04R/04L
- DEPARTURE: The South Departure procedure beg the departure ends of RWYs 22L / 22R (or downwir of RWYs 04R / 04L)
- At departure end of RWYs 22L / 22R turn left towar Ranch Country Club (golf course) climbing to 700 ft Do not overfly residential areas immediately S / SW airfield boundary. Proceed over golf course, then o NWSSB direct to Anaheim Bay. Avoid over flight o dential areas immediately west of NWSSB.

DO NOT OVERFLY ANY RESIDENTIAL AREAS

Frequencies

LOCATION	VHF	UHF	FM
KSLI ATIS	118.875	379.975	
KSLI GND	126.950	257.950	
KSLI TWR	123.850	251.150	
LAAAF OPS	126.200	237.200	65.050
KSLI GCA	124.750	290.900	
SOCAL App/ Dep Cntl	124.650	316.125	
LA Basin Helo	123.025		

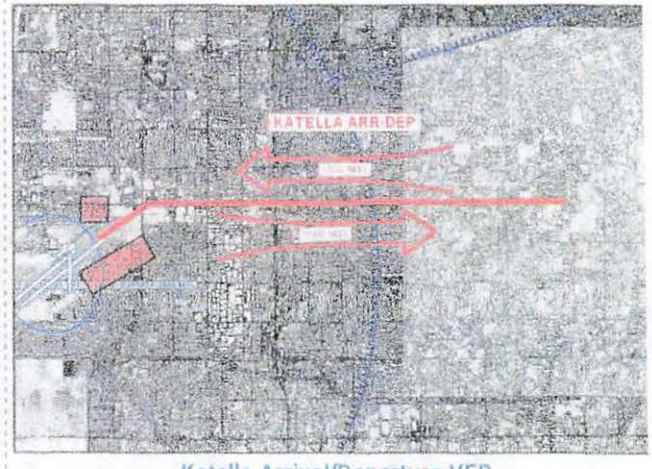
Name	Number
	DSN 84-972-(Last four numbers)
LAAAF Ops	562-795-2571
LAAAF FAX	562-795-2878
LAAAF Duty Officer	562-795-2868
LAAAF POL	562-795-2149
LAAAF Weather Observer	562-795-2569
25 OWS (DD175-1)	520-228-6598
ARNG AASF OPS	562-795-2006
USAR ASF OPS	562-795-2232
JFTB Security	562-795-2100
Emergencies (on post)	562-795-1111



North Arrival /Departure VFR
Arrival-1500 ft MSL Departure-1500 ft MSL

- **ARRIVAL**: The NORTH Arrival procedure begins at the 605 / 91 freeway interchange.
- From the 605 / 91 freeway interchange, proceed south along the 605 freeway to Katella / 605 intersection, remaining east of 605 freeway in order to operate outside of KLGB Class D airspace.
- From Katella / 605 intersection, proceed east toward Los Alamitos Race Course remaining over industrial area between Katella and Cerritos Avenues (modified downwind leg). Proceed past Costco shopping area (lat/ long) before turning modified base and initiating descent, then outside golf course pond for 22L / 22R (or modified downwind for 04L / 04R). DO NOT overfly homes immediately north/northeast of airfield.
- **DEPARTURE:** The North Departure procedure begins on downwind portion of RWYs 22L / 22R (or departure end of RWYs 04R / 04L).
- From abeam approach end of 22L / 22R, proceed north toward Costco shopping area. DO NOT overfly homes immediately north/northeast of airfield. Upon crossing Katella Avenue, proceed west remaining over industrial area between Katella and Cerritos Avenues to Katella / 605 intersection, climbing to 1500 ft MSL. Proceed north along 605 freeway to 605 / 91 interchange, remaining east of freeway.

DO NOT OVERFLY ANY RESIDENTIAL AREAS



Katella Arrival/Departure VFR
Arrival-1500 ft MSL Arrival-1500 ft MSL

- ARRIVAL: The Katella Arrival procedure begins vicinity of Disneyland Park at the boundary of the KSLI Class D airspace.
- Proceed west along Katella Avenue at 1500 feet MSL to Knott Avenue then descend to 1000 feet MSL to Valley View Street. Descend to final approach altitude as required to land.
- DEPARTURE: The Katella Departure procedure begins on downwind portion of RWYs 22L / 22R (or departure end of RWYs 04R / 04L).
- Proceed to Katella Avenue / Valley View Street intersection climbing to 1500 feet MSL, then east along Katella Avenue exiting KSLI Class D airspace.
- DO NOT overfly residential areas north and south of approach end of 22L / 22.

DO NOT OVERFLY ANY RESIDENTIAL AREAS

Recreation: While the Housing Element proposes to add housing units, there is no requirement for additional recreation to be added. What can result is increased competition for the currently available recreation amenities, or possible loss of recreation for residents (Will the current Public Driving Range (golf) on Lampson be lost to the public as proposed housing is built?)

Transportation:

Development of housing units would likely interfere with circulation of traffic. Wherever new residents to Seal Beach would come from to live in new housing units, traffic and therefore VMT would increase on our local streets. Seal Beach has one north-south arterial and that is Seal Beach Blvd. Development of housing projects in our Housing Element, as well as from proposed developments in immediate adjacent cities (Long Beach, Los Alamitos) will add traffic to Pacific Coast Highway, Westminster Avenue and Lampson Avenue. These all intersect with Seal Beach Blvd and will add to its congestion.

Lampson Avenue was not mentioned specifically in the Initial Study. It is a secondary arterial that is increasingly used as a bypass to the I-405 freeway. The only ingress/egress for the residents of the College Park East neighborhood is via Lampson Avenue.

The issues of access for emergency vehicles via Lampson Avenue as well as access as an evacuation route are extremely important to residents of College Park East as there is only one way in and out.

Tribal Cultural: Tribal artifacts and remains have been found in Seal Beach and nearby, so great care should be exercised in any future developments

Mandatory Findings of Significance:

Consideration of the cumulative effects of many of these issues are extremely important, as development across surrounding communities will act to compound these issues. In the Seal Beach Housing Element, 866 of the housing opportunity sites are in sites 5, 6, and 10. This amounts to 47% of the total submitted to HCD concentrated north of the I-405 freeway. It is a substantial number to be proposed within a few hundred feet of the intersection of Seal Beach Blvd and Lampson Avenue. If you also consider a proposed development in the City of Los Alamitos which would add 246 housing sites at 4665 Lampson, 1.5 miles east of Seal Beach Blvd, that totals 1,112 housing sites very near the same intersection. There is also housing development in the City of Long Beach, just across the Seal Beach city limit which could add a substantial amount of traffic to Pacific Coast Highway in Seal Beach. All these cumulative effects must be considered regarding traffic circulation, public safety, public services, air quality,

Sincerely,

Schelly Sustarsic

4288 Candleberry Avenue, Seal Beach

Megan Coats

From: Theresa Miller <tmiller3boys@gmail.com>
Sent: Friday, December 15, 2023 4:45 PM
To: Alexa Smittle
Subject: Comments on the Umbrella EIR

Hello Alexa,
Thank you for holding the meeting last week - it was interesting and quite a bit of information to digest in one night. I am so happy that we have a competent Environmental Commission, which has pointed out several areas of concern.

I agree with all of the concerns discussed in that meeting, brought up by the Environmental Commission. I look forward to seeing the revised EIR and, hopefully, the walk-through with the consultants.

Thank you again,
Theresa Miller

Megan Coats

From:	CEQAReview <ceqareview@dtsc.ca.gov>
Sent:	Thursday, December 14, 2023 7:02 AM
To:	Alexa Smittle; Office of Planning and Research - State Clearinghouse
Cc:	Kereazis, Dave@DTSC; Wiley, Scott@DTSC
Subject:	DTSC Comments - City of Seal Beach Housing Element and Zoning Code Updates Project
Attachments:	DTSC Comments - City of Seal Beach Housing Element.pdf

Good Morning Alexa,

Thank you for the opportunity for the Department of Toxic Substances Control to review and comment on the City of Seal Beach Housing Element and Zoning Code Updates Project. Attached you will find DTSC's comments for consideration. If you have any questions or comments, please reply to this email for guidance.

Thank you,
Tamara Purvis
Associate Environmental Planner
CEQA Unit-Permitting/HWMP
916-255-3857
Tamara.Purvis@dtsc.ca.gov
Department of Toxic Substances Control
California Environmental Protection Agency

Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Yana Garcia
Secretary for
Environmental Protection

Gavin Newsom
Governor

SENT VIA ELECTRONIC MAIL

December 14, 2023

Alexa Smittle
Community Development Director
City of Seal Beach
211 Eighth Street
Seal Beach, CA 90740
ASmittle@sealbeachca.gov

RE: NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE CITY OF SEAL BEACH HOUSING ELEMENT AND ZONING CODE UPDATES PROJECT, DATED NOVEMBER 16, 2023 STATE CLEARINGHOUSE # 2023110425

Dear Alexa Smittle,

The Department of Toxic Substances Control (DTSC) received a NOP of a DEIR for the City of Seal Beach Housing Element and Zoning Code Updates Project. The Initial Study was prepared to analyze potential impacts related to implementation of the City's Housing Element and Zoning Code Update. The Housing Element identifies 13 Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's Regional Housing Needs Assessment (RHNA) allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed. Of the 13 Housing Opportunity Sites, six would require rezoning, one would be rezoned through a proposed Specific Plan, and one would require an amendment to the Main

Street Specific Plan. The rezoning effort would also include the establishment of a new zoning designation, Mixed Commercial/Residential High Density (MC/RHD), which would apply to five of the Housing Opportunity Sites. This new zone district would facilitate housing for lower-income households as required by the state's RHNA allocation for the City and facilitate the inclusion of affordable units. Implementation of the Housing Element and Zoning Code Update would result in the City being able to accommodate 1,833 additional housing units pursuant to the City's RHNA allocation. DTSC has identified that this project may affect multiple sites within the project boundaries therefore, based on our project review, we request the consideration of the following comments:

1. The proposed project encompasses multiple active and nonactive mitigation and clean-up sites where DTSC has conducted oversight that may be impacted as a result of this project. This may restrict what construction activities are permissible in the proposed project areas in order to avoid any impacts to human health and the environment.
2. Due to the broad scope of the project, DTSC is unable to determine all of the locations of the proposed project site, whether they are listed as having documented contamination, land use restrictions, or whether there is the potential for the project site to be included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. DTSC recommends providing further information on the project site and areas that may fall under DTSC's oversight within the project area. Please review the City of Seal Beach project area in EnviroStor; DTSC's public-facing database.

DTSC believes the City of Seal Beach must address these comments to determine if any significant impacts under the California Environmental Quality Act (CEQA) will occur and, if necessary, avoid significant impacts under CEQA. DTSC recommends the department connect with our unit if any hazardous waste projects managed or overseen by DTSC are discovered.

DTSC appreciates the opportunity to comment on the City of Seal Beach Housing Element and Zoning Code Updates Project. Thank you for your assistance in protecting California's people and environment from the harmful effects of toxic substances. If you have any questions or would like any clarification on DTSC's comments, please respond to this letter or via email for additional guidance.

Sincerely,

Tamara Purvis

Tamara Purvis
Associate Environmental Planner
HWMP - Permitting Division – CEQA Unit
Department of Toxic Substances Control
Tamara.Purvis@dtsc.ca.gov

cc: (via email)

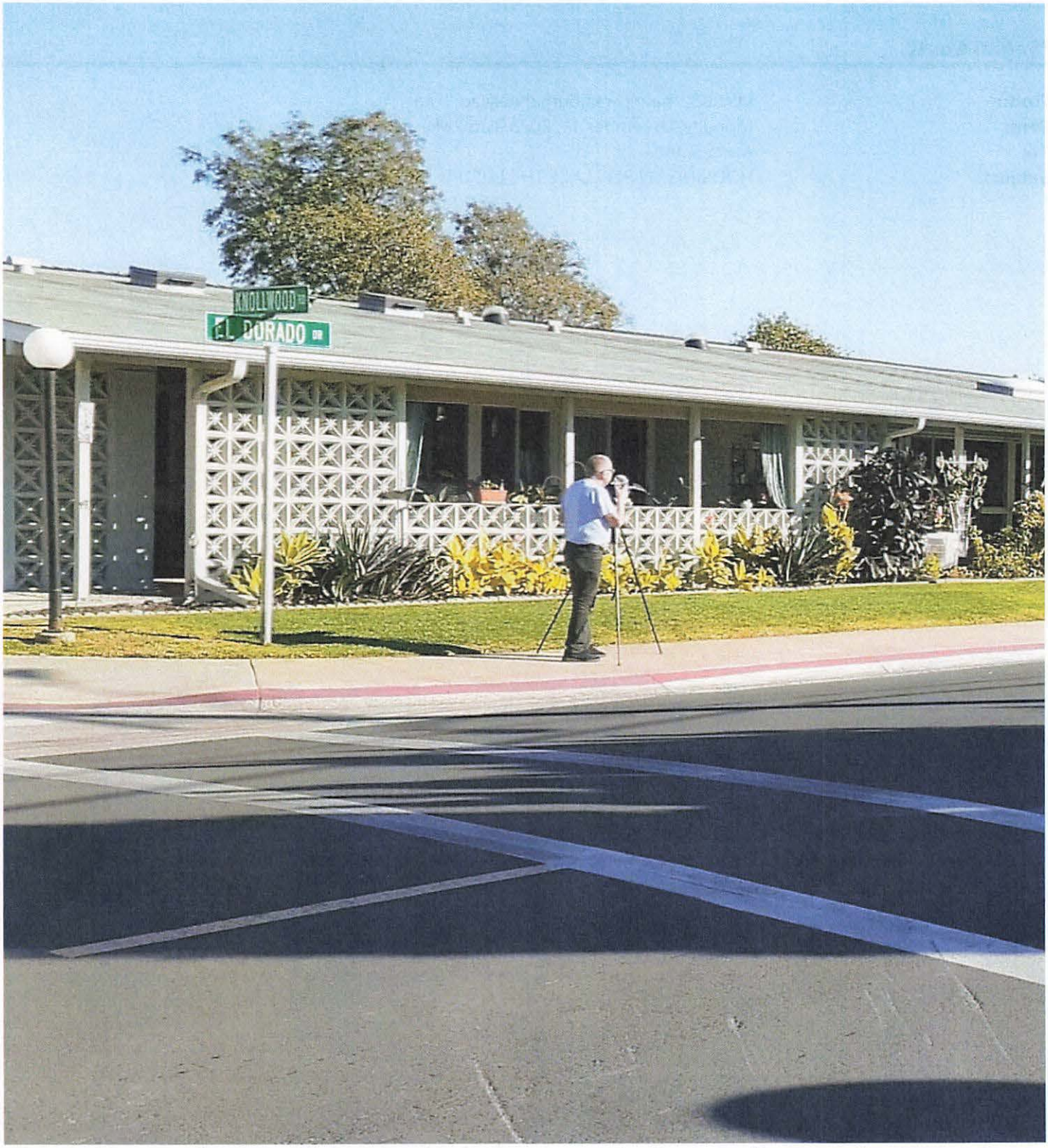
Governor's Office of Planning and
Research State Clearinghouse
State.Clearinghouse@opr.ca.gov

Dave Kereazis
Associate Environmental Planner
HWMP – Permitting Division - CEQA Unit
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

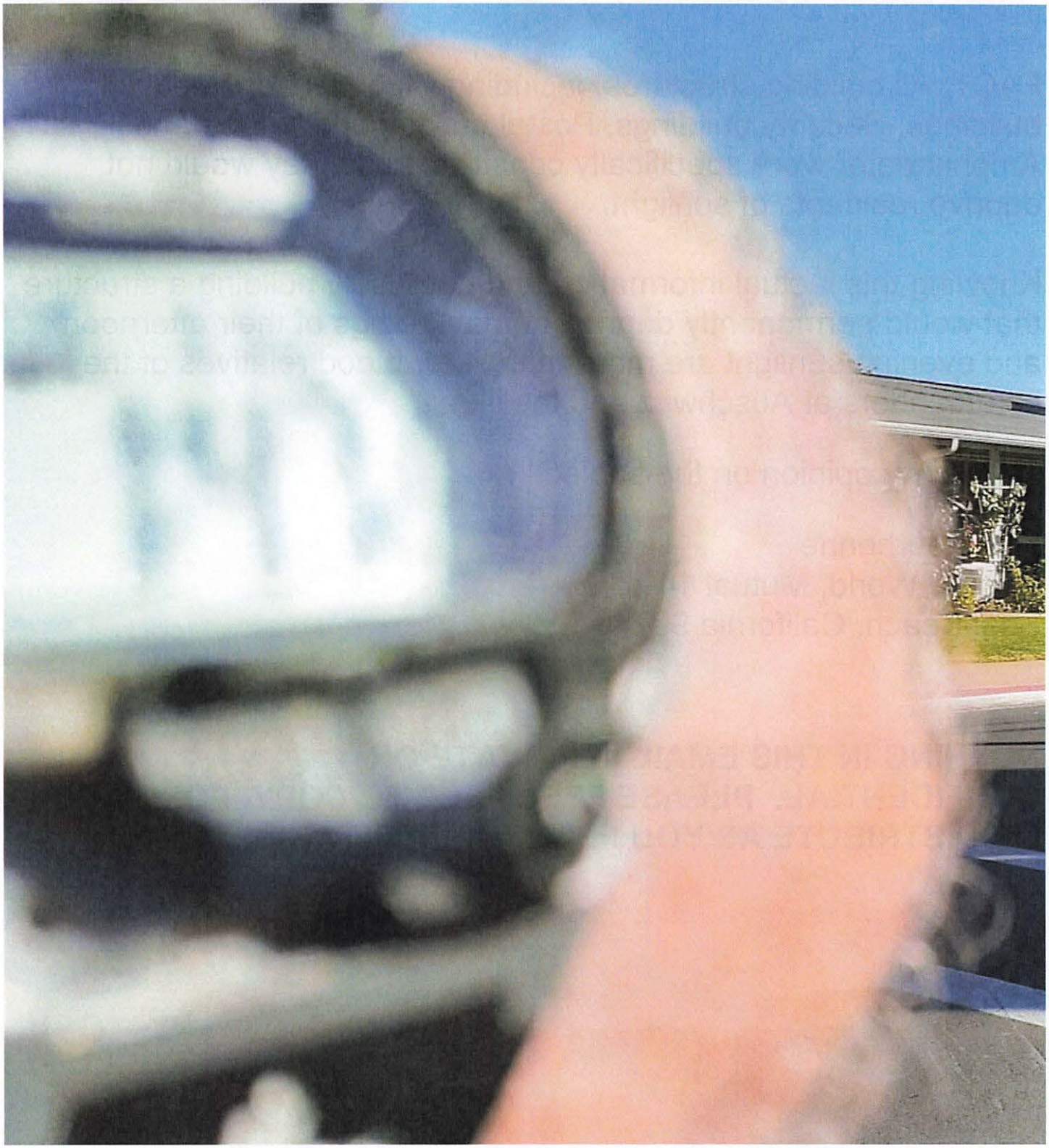
Scott Wiley
Associate Governmental Program Analyst
HWMP – Permitting Division - CEQA Unit
Department of Toxic Substances Control
Scott.Wiley@dtsc.ca.gov

Megan Coats

From: Kurt Bourhenne <kbourhenne@aol.com>
Sent: Monday, December 11, 2023 3:25 PM
To: Alexa Smittle
Subject: HOUSING TO REPLLACE THE LEISURE WORLD RV LOT



The above picture shows what appears to be a city employee taking pictures at Knollwood Rd. & El Dorado @ 1:41 p.m., as evidenced by the picture below.



The shadows shown at 1:41 p.m. represents indisputable prove that **if** a multi-story building were to be built on the RV Lot in Seal Beach Leisure World, the dwelling units on the East side would be permanently deprived of late afternoon sunlight and completely devoid of evening sunlight. Sunlight = Vitamin "D"

FACT: All building structures, including Club Houses, Medical buildings, Security buildings, Postal building, the Globe and Amphitheater were specifically constructed so they would not deprive residents of sunlight.

Knowing this factual information and purposely building a structure that would permanently deprive human beings of their afternoon and evening sunlight are more than likely blood relatives of the commanders at Auschwitz and the like.

This is **my** opinion on the subject!

Kurt Bourhenne
Leisure World, Mutual 14
Seal Beach, California 90740

NOTHING IN THIS EMAIL IS PRIVATE OR CONFIDENTIAL. PLEASE FEEL FREE TO COPY, FORWARD OR DISTRIBUTE AS YOU FEEL THE NEED ARISES!

Megan Coats

From: Aaron Groseclose <1aarongroseclose1@gmail.com>
Sent: Thursday, December 14, 2023 8:54 PM
To: Alexa Smittle
Subject: Leisure World RV Club

Alexa Smittle

Community Development Director

City of Seal Beach

Dear Ms. Smittle,

We are writing to you following the request for comments on the proposed development of low-income housing on the RV Club site in Leisure World.

We are second generation Leisure World owners and have enjoyed the RV Club as our parents did starting in 1974. This Club is a major reason we can afford to own an RV. So, we are concerned this key amenity for living in Seal Beach will be taken from us.

Not only does it provide community life, but it is a source of income for the Golden Rain Foundation. So, we are opposed to losing the facility for additional housing in our densely populated community. We understand the State of California is looking to provide new housing, but it is unfortunately putting this burden on local communities. However, under Article 34 of the State Constitution we as residents of Leisure World should be allowed a public vote – not a committee to decide this issue.

We believe Leisure World is already a low-income community based on surrounding housing costs. If the City of Seal Beach is so concerned about providing low-income housing why was the old Edison property not developed as low-income housing rather than as a park?

Thank you for the opportunity to express our concerns. We look forward to your reply.

Sincerely,

Aaron & Barbara Groseclose

Mutual 4-87C

Megan Coats

From: Alan Hunter <chronicpain@doctor.com>
Sent: Tuesday, December 12, 2023 5:26 PM
To: Alexa Smittle
Subject: Leisure World RV Lot

12/12/2023

asmittle@sealbeachca.gov

Please do not change anything regarding the Leisure World RV Lot. Including any rezoning or other reclassifications. I have lived in Leisure World for 10 years and always parked my RV in the lot. If I am forced to move my RV to a commercial lot, which will be many times more expensive, I will be forced to lose my beloved recreation vehicle because I am on a fixed income and cannot afford extra expenses.

Alan Hunter 1422 Merion Way Apt 59G Seal Beach CA 90740

Megan Coats

From: Bert van der Veer <dutchbert1@yahoo.com>
Sent: Thursday, December 14, 2023 2:01 AM
To: Alexa Smittle
Subject: Leisure World RV lot

Dear Alexa Smittle,

As a resident of Leisure World Mutual 8 unit 190F
My parents in Mutual 15 both 91 and my mother now in Hospice Care I am 68 own and have a RV in the Leisure World RV lot.

That's one of the reasons a lot of people buy here because of the promised ementaties. Then you spend over $100K to remodel your home which they should maintain since they keep telling us we don't own the unit but yet your paying to rebuild the whole unit.
Then over the years you learn about all the policies and now after years you have no other choices being old and are now being told that you may lose your RV parking spot.

This to seniors who came here and bought big motorhomes at high prices is not right to now be told that the RV lot may be sold off to build houses there. I am sure out of the 270 or more residents that have a RV there that there will be people talking to their lawyers if this happens.
I believe there are plenty of empty fields in Seal Beach 5 acres or more where they can build nice homes. Leisure World is pretty packed as it is traffic parking is already pretty full.
So please do us a favor and re-think any notion if possible of taking away our RV lot. These are the things that made Leisure World attractive. Most residents could not afford to store the RV's outside at a storage location plus to far away in most cases.

Thank you kindly for taking the time to read my email, hope you and your department have a great holiday may next year be better in our beautiful little Seal Beach California City.
Sincerely Bert van der Veer

Megan Coats

From: Lori Gray <lorigray920@aol.com>
Sent: Wednesday, December 13, 2023 4:39 PM
To: Alexa Smittle
Subject: Leisure World Rv Lot

Alexa Smittle
I want to acfirm the notion that LW Shareholders do not want this property sold. It was promised as an amenity. It would cause a total disruption here for the Shareholders if new housing occurred of this volume. There are many other city spots for you to declare. The GRF Board can sell it without our authorization for more housing . It would take a vote by all of the shareholders to change our current GRF bylaws .

This idea is not realistic. GRF can't handle the maintenance for the units they already have. We have huge pipping problems here now. Nathan Steele and Nick Massetti do not represent the Shareholders in this planning element. Massetti has a conflict of interest here as a voting GRF Member and should not be on this planning committee.

Thank you
Lori Gray

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CONFIDENTIALITY NOTICE: The information contained in this e-mail and attached document(s) may contain confidential information that is intended only for the addressee(s). If you are not the intended recipient, you are hereby advised that any disclosure, copying, distribution or the taking of any action in reliance upon the information is prohibited. If you have received this e-mail in error, please immediately notify the sender and delete it from your system.

Megan Coats

From: Catherine Showalter <clshowalter@roadrunner.com>
Sent: Thursday, December 7, 2023 10:49 PM
To: Alexa Smittle
Cc: Jill Ingram; Schelly Sustarsic; Shaun Temple
Subject: PLEASE USE THIS VERSION FW: Comments on Initial Study for Draft EIR: Housing Element and Zoning Code Updates
Attachments: Comments on Initial Study_Housing Element and Zoning Code Updates Initial Study_ Dec 6 2023.docx

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Alexa:

Attached you will find my comments on the ***Initial Study for the Draft EIR: Housing Element and Zoning Code Updates***. I realize this is the first step in a very long process and I look forward to participating as it moves forward.

At last night's EQCB Meeting and Public Workshop, I shared most of the comments that are listed on the first page of the attached. However, I did not mention **Policy 4A in regards to the City performance standard of an average total response time for fires**. Please be sure to take note of it as I believe "reflect time" is an error and should be corrected in the City's Policy documents. Policy 4E and Policy 4F also have grammatical errors. You will find them all mentioned on page 7 of the attached material.

Even though a comment was made at the end of last night's meeting about how well the Initial Study was written by the consultant team, I do not agree. I found at least 45 grammatical and spelling errors as I read the report in detail and examined the tables. Technically, the report included all of the categories that will be further addressed but I hope the mistakes and oversights are corrected before we see the next version. Someone at Stantec needs to take responsibility for proof reading the document before submitting it to City staff for public review. Errors are distracting for the reader and time consuming for staff to edit and revise before public meetings take place.

Thank you for the opportunity to provide input. I appreciate all you do for our community of Seal Beach and hope you will enjoy the holiday season with loved ones in ways that mean the most to you.

Respectfully,

Catherine Showalter
EQCB Member, District Four
City of Seal Beach

COMMENTS ON INITIAL STUDY
CITY OF SEAL BEACH HOUSING ELEMENT AND ZONING CODE UPDATES
Environmental Quality Control Board Special Meeting
Catherine Showalter, EQCB Member, District Four
December 6, 2023

Thank you for the opportunity to review and comment on the Initial Study.

I appreciate the Glossary of Terms

Add RWQCB: Regional Water Quality Control Board
Add GWP: Global Warming Potential

In describing Site 10 – Old Ranch Club (pg. 2-15)
It states that "A new development agreement between the developer and the property owner is expected to be a part of the development application that will ultimately be considered by the City."

Explain why. Include that the current development agreement specifies no development through 2029.

San Bernardino is misspelled throughout the document. (pg. 3-10, 3-37, 3-63)

3.3.1 Air Quality, Environmental Setting (pg. 3-10)

Why is the 2016 AQMP being used as a resource?
AQMD adopted the 2022 AQMP on December 2, 2022.
This is an important section; very little is included at this point; needs to be expanded.

3.15.1 Other Public Facilities, Environmental Setting Libraries (pg. 3-54)
3.20.1 Wildfire, Environmental Setting (pg. 3-70)

Policy 4A: Ensure that adequate facilities and fire service personnel are maintained based on population, fire hazards in and around the City and a performance standard of an average total **reflect** time of seven minutes or less.

I believe it should be <u>response</u> time, not reflect time.

3.21.1 Mandatory Findings of Significance, Environmental Impact Analysis (pg. 3-75)

Will the "cumulative considerable" list of related projects or growth projections developed for the EIR include the West Ed development site on Lampson Avenue across from College Park East and down the road from Old Ranch?

SUGGESTED CORRECTIONS FOR GRAMMATICAL ERRORS

Offered by Catherine Showalter

Notice of Preparation and Scoping Meeting Cover Page

Project Location, second sentence: "The City is located..."

Add the word "is."

PROJECT OVERVIEW, Second page, Background bullet point: "Address and, where appropriate and legally ~~possible;~~ possible, remove governmental constraints ..."

Replace semi colon with comma after word "possible."

Initial Study

Page 2-3

REGIONAL HOUSING NEEDS ASSESSMENT

First paragraph, first sentence: "SCAG has allocated...through the adopted ~~its~~ 6th cycle..."

Delete word "its."

First paragraph, second sentence: "The RHNA represents...must accommodate ~~for~~ in its..."

Delete word "for."

Page. 2-16

2.3.3 Housing Opportunity Site Descriptions (pg. 2-16)

Site 13 Location: "The Main Street Specific Plan area covers ~~is~~ the traditional downtown..."

Delete word "is".

Site 13 Assumed Development Capacity: Mid paragraph, "A physical inventory...standard **of**..."

The word "of" should not be in bold.

Site 13 Assumed Development Capacity: Last sentence, "At these small sizes, ... therefore, ~~have~~ income levels have been categorized..." Delete "have."

Page 2-18

2.3.4 Housing Opportunity Sites

Paragraph under table, last sentence, "the Housing Element Update ~~include~~ includes sufficient sites..."

Replace word "include" with "includes."

Page 3-4

AESTHETICS

Table item c), last sentence: "If the Project is in an urbanized area, is there ~~the~~ potential ~~of~~ for the project to conflict with applicable zoning and other regulations governing scenic quality?"

Replace with, "is there potential for the project to conflict..." and delete "the."

Page 3-5

3.1.2 Environmental Impact Analysis

Paragraph a) second sentence: "nor are there any specific policies related to preservation..."

Add word "to."
Paragraph c), last sentence, "If the project is in an urbanized area, is there ~~the~~ potential of the project to conflict with applicable zoning…"
Add "is there" and delete "the."

Page 3-6
First paragraph, second sentence "…infrastructure which may have ~~the have~~ the potential…"
Delete "the have."

Page 3-6
d) first paragraph, second sentence "… on structures and even off ~~of~~ vehicle windshields, …"
Delete word "of."

Page 3-6
d) second paragraph, first sentence "… would be required to comply with City guidelines…"
Add word "with."

Page 3-8
AGRICULTURAL AND FORESTRY RESOURCES
3.2.2 Environmental Impact Analysis
b) second paragraph, fifth sentence "Additionally, none of the identified Housing Opportunity Sites that ~~is~~ are not proposed…"
Replace "is" with "are."

Page 3-10
AIR QUALITY
3.3.1 Environmental Setting
First paragraph, "… and San ~~Bernadino~~ Bernardino Counties."
Replace Bernadino with Bernardino.

Page 3-13
BIOLOGICAL RESOURCES
3.4.2 Environmental Impact Analysis
a) First paragraph under Finding, second sentence, "Certification of the Project itself would not lead to alteration or modification of biological resources…"
Add word "of."

Page 3-15
3.4.2 Environmental Impact Analysis
f) Paragraph under Finding, second sentence, "Certification of the Project itself would not lead to alteration or modification of biological resources…"
Add word "of."

Page 3-21
ENERGY RESOURCES
3.6.2 Environmental Impact Analysis
b) Second paragraph under Finding, first sentence, "...comply with the current and future iterations of the Building Energy Efficiency Standards..."
Add word "of."

Page 3-29
GREENHOUSE GASES
3.8.1 Environmental Setting
First paragraph, third sentence, "Each GHG differs in its ability to absorb heart in the atmosphere. GHG emissions are presented in carbon dioxide equivalent, which ~~weight~~ weigh each gas by its global warming potential."
Add period to end run-on sentence.
Replace word "weight" with "weigh."

First paragraph, last sentence, "Additional GHGs with high Global Warming Potential (GWP) include..."
Add "Global Warming Potential" since this is the first time the term has been used in the report.

Page 3-30
3.8.2 Environmental Impact Analysis
a) paragraph under Finding, third sentence, "As such, greenhouse gas emissions resulting from future Project implementation ~~that~~ may have a significant impact on the environment."
Delete "that."

b) paragraph under Finding, first sentence, "The project identifies Housing Opportunity Sites that have the potential for providing additional housing to meet the City's RHNA allocation. "
Add a period to end sentence.

Page 3-32
HAZARDS AND HAZARDOUS MATERIALS
Policy 2B: "Implement the measures ~~outline~~ outlined in the City's Household Hazardous Waste Plan."
Replace word "outline" with "outlined."

Page 3-33
3.9.2 Environmental Impact Analysis
a) first paragraph under Finding, first sentence, "Construction activities associated with future residential development resulting from Project implementation ~~is~~ are anticipated to involve..."
Delete word "is" and add "are."

a) second paragraph under Finding, second sentence, "Upon completion of construction, hazardous materials associated with Project operations would include ..."
Add comma.

Page 3-36
g) paragraph under Finding, first sentence, "The Housing Opportunity Sites are located on different parcels ~~located~~ throughout the City and are not located in ..."
Delete "located" as redundant.

Page 3-37
HYDROLOGY AND WATER QUALITY
3.10.1 Environmental Setting
First paragraph, first sentence, San ~~Bernadino~~ Bernardino.
Replace "Bernadino" with correct spelling of "Bernardino."

Page 3-38
Policy 2S, last line, "...maximize the percentage of permeable surfaces to ~~allows~~ allow more percolation of storm water into the ground."
Replace word "allows" with "allow."

Page 3-39
First paragraph, last sentence, "**...** construction activities associated with future residential development..."
Add word "with."

Page 3-41
ii., paragraph under Finding, second sentence, Though the Project may not result in substantial ~~increased~~ increases in impervious surfaces..."
Replace word "increased" with "increases."

iii, "Create or contribute runoff water would exceed the capacity of ... runoff~~;~~. ~~or~~"
Replace semi colon with period; delete word "or."

Page 3-42
iv. paragraph under Finding, first sentence, "...produced by storms ~~ay~~ at sea..."
Replace "ay" with "at."

iv. paragraph under Finding, sixth sentence, "... the Project may be located in areas susceptible to flooding, and implementation of the Project could impede or redirect flood flows."
Add comma for clarity.

Page 3-45
LAND USE AND PLANNING
b), paragraph under Finding, second to the last sentence, "...regulation adopted for the purpose

of avoiding or ~~mitigation~~ mitigating an environmental effect."
Replace word "mitigation" with "mitigating."

Page 3-46
MINERAL RESOURCES
3.12.2 Environmental Impact Analysis
Paragraph under a-b) Finding, second to the last sentence, "... impacts associated with the loss of availability..."
Add word "of."

Page 3-48
NOISE
3.13.2 Environmental Impact Analysis
b) "Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?"
Add words "result in."

Page 3-52
POPULATION AND HOUSING
3.14.2 Environmental Impact Analysis
a), last paragraph, last sentence, "Therefore, this topic will be further ~~evaluation~~ evaluated in the EIR."
Replace word "evaluation" with "evaluated."

Page 3-54
PUBLIC SERVICES
Policy 4A: "Ensure that adequate facilities and fire service personnel are maintained based on population, fire hazards in and around the City and a performance standard of an average total ~~reflect~~ response time of seven minutes or less."
Replace word "reflect" with "response."

Page 3-63
TRIBAL CULTURAL RESOURCES
3.18.1 Environmental Setting
Third sentence, "The Gabrielinos were in an area that expended from Ventura County to the north and San ~~Bernadino~~ Bernardino County to the east."
Replace "Bernadino" with "Bernardino."

Page 3-64
a) ii, last sentence, "...the lead agency shall consider the significance of the resource to a California Native American ~~tribe?~~ tribe."
Replace question mark with a period.

Page 3-65
UTILITIES AND SERVICE SYSTEMS
3.19 Environmental Setting
Water
First paragraph, "The City is a retail water supplier..."
Add the word "is."

Page 3-66
Wastewater
Second paragraph, last sentence, "In 2020, 2,520 AF of wastewater was ~~collect~~ collected from the City (City of Seal Beach 2021)."
Replace word "collect" with "collected."

Page 3-67
3.19.2 Environmental Impact Analysis
c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that ~~is~~ it has adequate capacity..."
Replace word "is" with "it."

Page 3-70
WILDFIRE
3.20.1 Environmental Setting
First paragraph, first sentence, "The City and Project area are ~~surrounding~~ surrounded by urban and developed lands."
Replace word "surrounding" with "surrounded."

Second paragraph, second sentence, "...much of the City has been identified as ~~have~~ having a low risk for wildfire."
Replace word "have" with "having."

Page 3-71
Policy 4A: "Ensure that adequate facilities and fire service personnel are maintained based on population, fire hazards in and around the City and a performance standard of an average total ~~reflect~~ response time of seven minutes or less."
Replace word "reflect" with "response."

Policy 4E: "Develop ~~and~~ an early warning system of Santa Ana wind fire danger ..."
Replace word "and" with "an."

Policy 4F: "...require private responsibility for development and maintenance necessary of new fire flow water lines ..."
Add word "of."

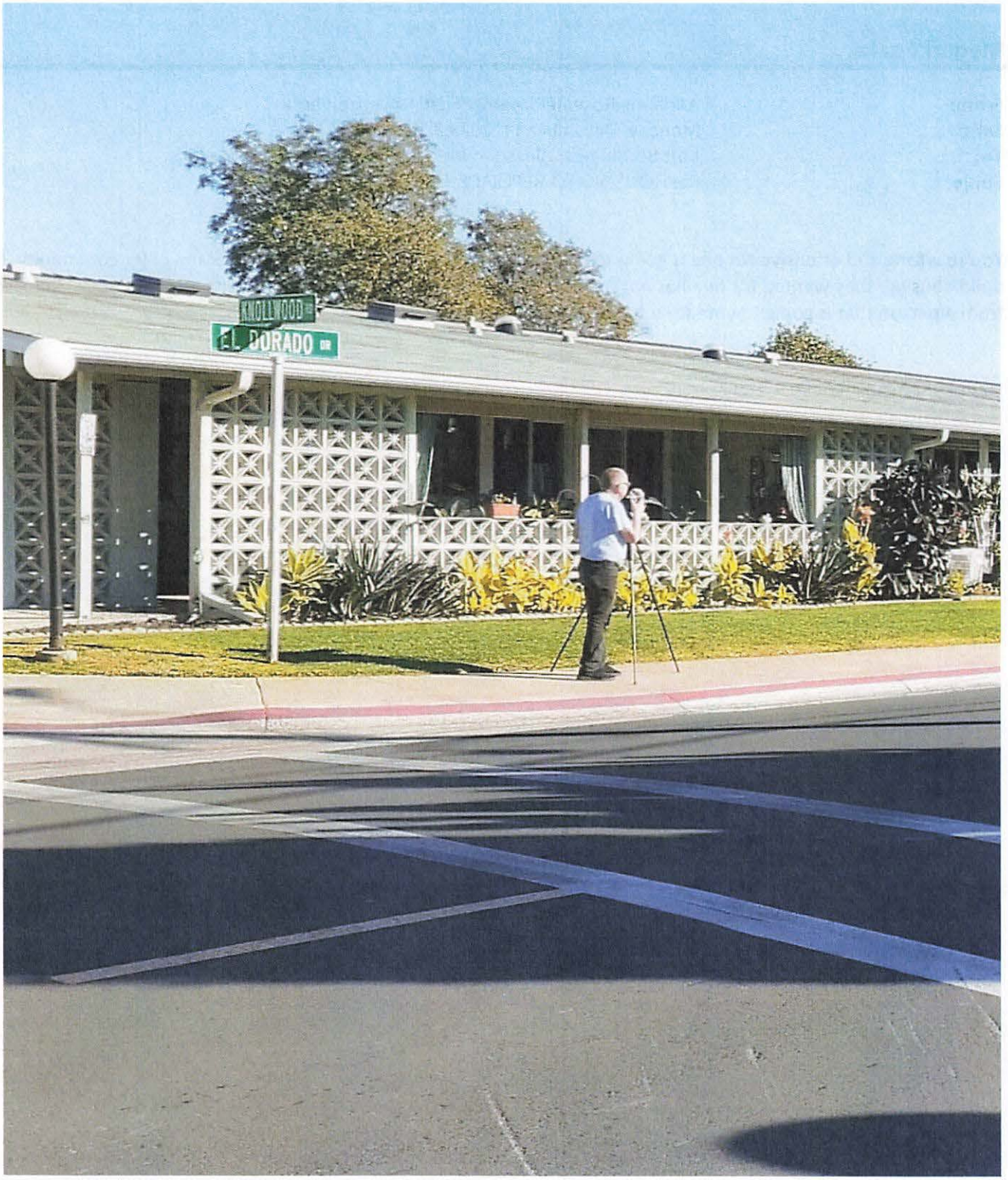
Megan Coats

From: Adrianne Rosenfeld <arosenfeld1@verizon.net>
Sent: Monday, December 11, 2023 3:50 PM
To: Kurt Bourhenne; Alexa Smittle
Subject: Re: HOUSING TO REPLLACE THE LEISURE WORLD RV LOT

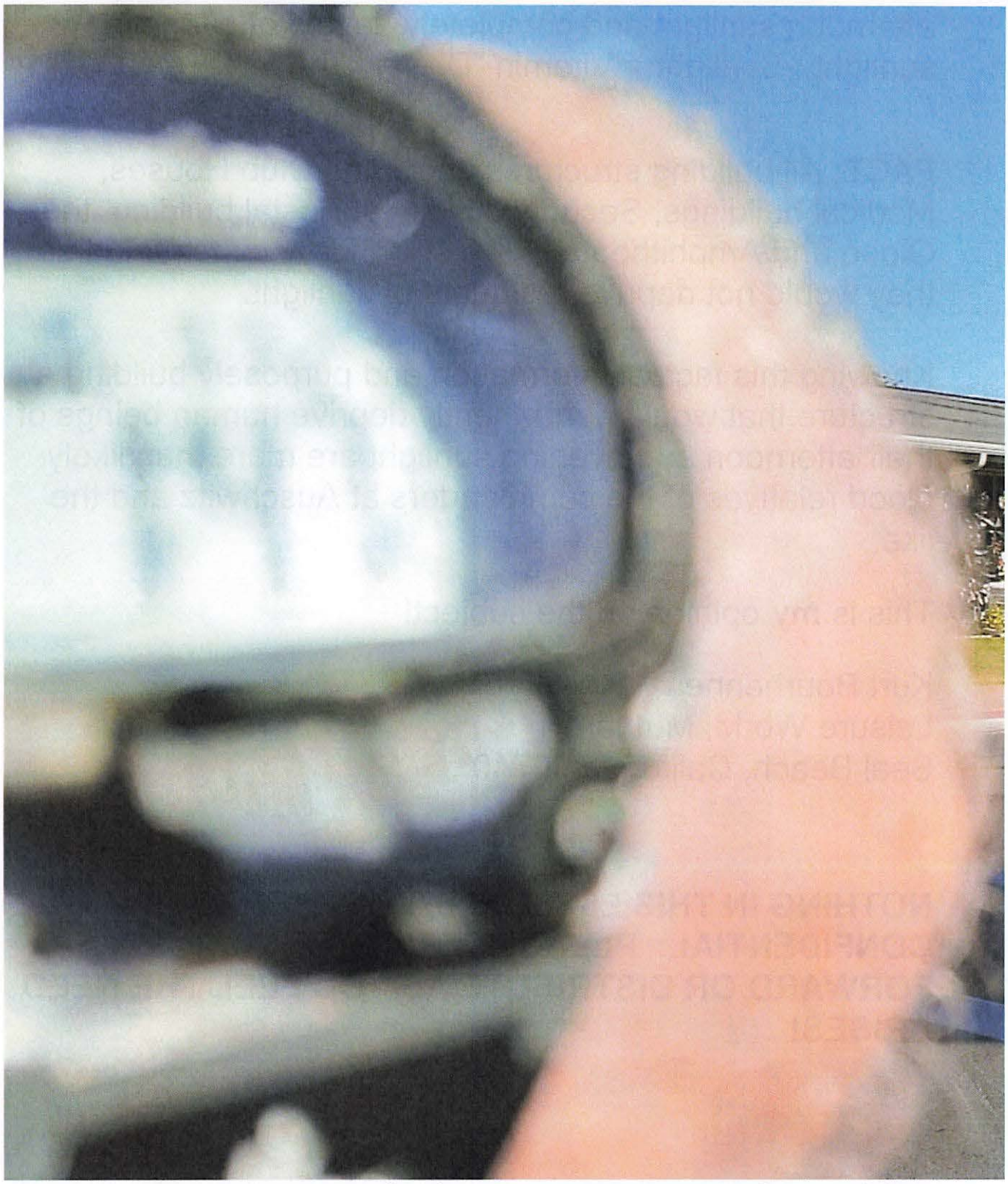
You're wrong and offensive No one is going to build housing in Leisure World. This is a 55 and older community. If they build housing, they wanted for families not for seniors and that a remark about Auschwitz was way out of line especially from a person that is going to vote for a fascist.

Sent from the all new AOL app for iOS

On Monday, December 11, 2023, 3:24 PM, Kurt Bourhenne <kbourhenne@aol.com> wrote:



The above picture shows what appears to be a city employee taking pictures at Knollwood Rd. & El Dorado @ 1:41 p.m., as evidenced by the picture below.



The shadows shown at 1:41 p.m. represents indisputable prove that **if** a multi-story building were to be built on the RV Lot in Seal Beach Leisure World, the dwelling units on the East side would be permanently deprived of late

afternoon sunlight and completely devoid of evening sunlight. Sunlight = Vitamin "D"

FACT: All building structures, including Club Houses, Medical buildings, Security buildings, Postal building, the Globe and Amphitheater were specifically constructed so they would not deprive residents of sunlight.

Knowing this factual information and purposely building a structure that would permanently deprive human beings of their afternoon and evening sunlight are more than likely blood relatives of the commanders at Auschwitz and the like.

This is **my** opinion on the subject!

Kurt Bourhenne
Leisure World, Mutual 14
Seal Beach, California 90740

NOTHING IN THIS EMAIL IS PRIVATE OR CONFIDENTIAL. PLEASE FEEL FREE TO COPY, FORWARD OR DISTRIBUTE AS YOU FEEL THE NEED ARISES!

Megan Coats

From: Susan Perrell <susan@outdoorsynergy.net>
Sent: Thursday, December 7, 2023 6:27 PM
To: Alexa Smittle
Cc: Shaun Temple
Subject: Comments on the scope and content of the Environmental Impact Report (EIR)
Attachments: Initial Study and EIR Scope Comments_Susan Perrell Comments.docx

Hi Alexa,

Thank you and Shawn for putting together a very cordial and successful meeting last night, and for guiding us newbie EQCB members through the meeting process. Attached are my comments on the EIR scope... some of which I talked through last night. I am hoping my comments will be helpful, and that this written version will be more coherent and easier to address than my oral comments last night!

I apologize in advance that I am a terrible speller and I could not get Word to spell check the "Comments" in the document. Perhaps my typos and mis-spellings will come out on the wash! Please don't hesitate to call if you have any questions or if I can help in any way.

I am looking forward to working with you and Shawn throughout this process.

Best,

Susan

Susan Perrell
562 233 1574

CITY OF SEAL BEACH
ENVIRONMENTAL QUALITY CONTROL BOARD AGENDA
SPECIAL MEETING

Wednesday, 06 December 2023 — 6:00 PM

City Council Chambers
211 Eighth Street
Seal Beach, CA 90740

District 1 — Gary Allen
District 2 — Benjamin Wong
District 3 — Susan M. Perrell
District 4 — Catherine Showalter
District 5 — Donald Horning

Department of Community Development
Alexa Smittle, Director
Shaun Temple, Planning Manager

- City Hall office hours are 8:00 a. m. to 5:00 p. m. Monday through Friday. Closed noon to 1:00 p.m.
- The City of Seal Beach complies with the Americans with Disabilities Act. If you need assistance to attend this meeting please telephone the City Clerk' s Office at least 48 hours in advance of the meeting at (562) 431-2527.
- Copies of staff reports and/or written materials on each agenda item are available for public inspection in City libraries or on the City website at: http://sealbeachca.suiteonemedia.com/web/home.aspx

CALL TO ORDER

PLEDGE OF ALLEGIANCE

ROLL CALL

ORAL COMMUNICATIONS

At this time, members of the public may address the Environmental Quality Control Board regarding any items within the subject matter jurisdiction of the Environmental Quality Control Board. Pursuant to the Brown Act, the Board cannot discuss or take action on any items not on the agenda unless authorized by law. Those members of the public wishing to speak are asked to come forward to the microphone and state their name for the record. All speakers will be limited to a period of 5 minutes.

APPROVAL OF AGENDA

By Motion of the Environmental Quality Control Board, this is the time to notify the public of any changes to the agenda, re- arrange the order of the agenda, and provide an opportunity for any member of the Environmental Quality Control Board or staff to request an item be removed from the Consent Calendar for separate action.

SCHEDULED MATTERS

A. Environmental Impact Report (EIR) Scoping Meeting for the Housing Element Update and Zoning Code Update

Recommendation: Staff to receive input and comments from the public to help identify the range of actions, alternatives, mitigation measures, and potentially significant effects to be analyzed in depth in the EIR for the Housing Element Update and Zoning Code Update.

STAFF CONCERNS

BOARD CONCERNS

ADJOURNMENT

ENVIRONMENTAL QUALITY CONTROL BOARD

STAFF REPORT

TO: Environmental Quality Control Board

FROM: Alexa Smittle, Community Development Director

MEETING DATE: December 6, 2023

SUBJECT: Scoping Meeting to solicit comments and suggestions regarding the scope and content of the Environmental Impact Report (EIR) and the environmental issues and alternatives to be addressed in the EIR for the proposed Housing Element Update and Zoning Code Update (Project).

LOCATION: Citywide

RECOMMENDATION: Staff recommends that the Environmental Quality Control Board conduct a public meeting, receive public comments and provide comments to Staff for preparation of the EIR.

BACKGROUND

Pursuant to State Law, the City of Seal Beach (City) must update its Housing Element every eight years. A key component of the Housing Element is the identification of sites that are suitable to accommodate new housing units. Under State law, jurisdictions must maintain an inventory of potential housing sites commensurate with their Regional Housing Needs Assessment (RHNA) allocation. For the 2021-2029 cycle, the City of Seal Beach (City) has been assigned a total of 1,243 units. Within the City's Housing Element Update, several sites are identified as housing opportunity sites, but not all of them are currently zoned to accommodate housing. As a part of the Housing Element work program, the Zoning Code must be updated to allow for housing development at the identified sites. As such, the City is preparing a Program Environmental Impact Report (EIR) for the Housing Element Update and Zoning Code Update (Project).

Based on the Initial Study performed for the Project, staff has determined that an EIR inclusive of all environmental topics except for Agriculture & Forestry, Mineral Resources, and Wildfire must be completed under the California Environmental Quality Control Act (CEQA). As a part of that process, a month-long scoping period is provided to allow the

Commented [SP1]: I agree with the selection of categories to be eliminated from study in the EIR. However, for some of the categories that will be included in the EIR, the justification for including them was too narrow, and I am concerned that, as a result, the EIR studies may be focused too narrowly. Potential impacts to environmental, historical, and cultural resources and public services should be more deeply and more broadly studied in the EIR than this initial study suggests.

community and interested parties time to review initial information about the Project and provide feedback on the scope and content of the EIR. Comments may be submitted via delivery, mail, or email to the City anytime during the scoping period, in this case, from November 16, 2023 to December 15, 2023.

Pursuant to Section 21083.9 of the Public Resources Code, in preparation of an EIR, a scoping meeting will be held for the general public and responsible and trustee public agencies. Tonight's meeting, hosted by the Environmental Quality Control Board (EQCB), provides opportunity for public participation using an in-person setting that will be recorded for reference and incorporation into the scoping process. Those attending will learn about the Project, review the anticipated scope of the EIR, and assist the City in identifying the range of actions, alternatives, mitigation measures, and potentially significant effects to be analyzed in depth in the EIR. It is important to note that no decision or recommendation is being made by the EQCB at this meeting.

The Initial Study/Notice of Preparation of a Draft Environmental Impact Report and the Notice of Scoping Meeting are available for public review at https://www.sealbeachca.gov/Departments/Community-Development/Planning-Development/Environmental-Documents-Under-Review and are also attached to this staff report. Written comments must be submitted prior to 5:00 P.M. Friday, December 15, 2023 to:

Alexa Smittle, Community Development Director
City of Seal Beach, Community Development
211 Eighth Street
Seal Beach, California 90740
asmittle@sealbeachca.gov
562.431.2527 ext. 1313

Following the close of the scoping period, research, analysis, and technical studies will be performed, and the Program EIR drafted for public review, ideally by late Spring 2024. A 45-day public review period of the Draft EIR will be provided, after which responses to comments received will be prepared. The EIR will be reviewed by the Environmental Quality Control Board as well as the Planning Commission, and ultimately brought to the City Council for consideration.

Alexa Smittle

Alexa Smittle
Community Development Director

Attachments:

1. Initial Study/Notice of Preparation (IS/NOP)
2. Notice of Scoping Meeting

Commented [SP2]: While the EIR is currently intended to be programmatic rather than project-specific, each of the 10 sites to be rezoned are very different; different settings, different environmental, historical, and recreational resources, and different environmental issues and challenges. Therefore, in order to make the EIR a adequately complete and meaningful assessment that can serve to support sound decisions for EIR certification and subsequent discretionary decisions, the resources, impacts, mitigation, and issues at each site will need to be assessed site-specifically. Even if the individual development sites will later go through a CEQA process prior to receiving entitlements, the zoning changes for those project sites will already have been decided and made, based on the earlier Programmatic EIR. Furthermore, those environmental resources and issues that were never identified or studied in the high level Programmatic EIR may never be identified or studied later but, instead, administratively dismissed with a negative declaration or a mitigated negative declaration. To prevent that potential study gap, the sites should be studied in depth, preferably via separate EIRs or possibly through robust site-specific studies rolled up into the Programmatic EIR. Following that process, a consistency review and/or update of each specific EIR should occur when an actual project is proposed for that site.

PUBLIC NOTICE
CITY OF SEAL BEACH COMMUNITY DEVELOPMENT

NOTICE OF AVAILABILITY OF AN INITIAL STUDY/NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE CITY OF SEAL BEACH HOUSING ELEMENT AND ZONING CODE UPDATES

Notice is hereby given by the Community Development Department of the City of Seal Beach that a Notice of Preparation of a Draft Environmental Impact Report (EIR) has been prepared for the Housing Element and Zoning Code Updates Project. The Initial Study/Notice of Preparation (IS/NOP) will be available for public review and comment for 30 days commencing Thursday, November 16, 2023, and ending Friday, December 15, 2023. The NOP includes a description of the Project, and the IS includes a discussion of the environmental topics. The City of Seal Beach is the lead agency for the preparation of this EIR.

Project Location: City of Seal Beach, including 13 opportunity sites throughout the city totaling approximately 278 acres.

Project Description: The Project is the City's Housing Element Update and its resulting zoning code update and rezoning program. The Housing Element Update identifies Housing Opportunity Sites throughout the city that have the potential for providing additional housing to meet the City's Regional Housing Needs Allocation (RHNA). The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed because the current capacity of these underutilized sites is not sufficient to fully accommodate the RHNA in all income categories.

Public Review and Comment Period: A 30-day public review period for comments on the scope of the EIR starts on **Thursday, November 16, 2023,** and ends on **Friday, December 15, 2023** at **5:00 P.M.** Please send your comment, with your name and address, to: Alexa Smittle, Community Development Director, City of Seal Beach, Community Development Department, 211 Eighth Street, Seal Beach, CA 90740 or via e- mail to: asmittle@sealbeachca.gov. To further facilitate public participation, a public meeting will be held on December 6, 2023 at 6 p.m. in City Council Chambers located at 211 Eighth Street, Seal Beach, CA.

A copy of the IS/NOP describing the Project and potential environmental effects is available at the following locations:

- Orange County Public Library, Seal Beach Branch, 707 Electric Avenue, Seal Beach, CA 90740
- Orange County Public Library, Los Alamitos-Rossmoor Branch, 12700 Montecito, Seal Beach, CA 90740
- The City's website: https://www.sealbeachca.gov/Departments/Community-Development/Planning-Development/Environmental-Documents-Under-Review.

PUBLIC NOTICE
CITY OF SEAL BEACH COMMUNITY DEVELOPMENT

NOTICE OF A PUBLIC SCOPING MEETING OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE CITY OF SEAL BEACH HOUSING ELEMENT AND ZONING CODE UPDATES

Scoping Meeting: Pursuant to Section 21083.9 of the Public Resources Code, a scoping meeting will be held for the general public and responsible and trustee public agencies. The purpose of the scoping meeting is to learn about the Project, review the anticipated scope of the EIR, and assist the City in identifying the range of actions, alternatives, mitigation measures, and potentially significant effects to be analyzed in depth in the EIR.

Scoping Meeting Date	**Scoping Meeting Time**	**Scoping Meeting Location**
Wednesday, December 6, 2023	6:00 P.M.	City Council Chambers 211 Eighth Street Seal Beach, California 90740

Project Location: City of Seal Beach, including 13 opportunity sites throughout the city totaling approximately 278 acres.

Project Description: The Project is the City's Housing Element Update and its resulting zoning code update and rezoning program. The Housing Element Update identifies Housing Opportunity Sites throughout the city that have the potential for providing additional housing to meet the City's Regional Housing Needs Allocation (RHNA). The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed because the current capacity of these underutilized sites is not sufficient to fully accommodate the RHNA in all income categories.

Public Review and Comment Period: A Separate Notice of Availability of an Initial Study/Notice of Preparation (IS/NOP) of a Draft Environmental Impact Report (EIR) for the City of Seal Beach Housing Element was published on November 16, 2023 announcing a 30-day public review period for comments on the scope of the EIR starting on **Thursday, November 16, 2023,** and ending on **Friday, December 15, 2023** at **5:00 P.M.** The NOP includes a description of the Project, and the IS includes a discussion of the environmental topics. The City of Seal Beach is the lead agency for the preparation of this EIR. Please send your comment, with your name and address, to: Alexa Smittle, Community Development Director, City of Seal Beach, Community Development Department, 211 Eighth Street, Seal Beach, CA 90740 or via e-mail to: asmittle@sealbeachca.gov.

A copy of the IS/NOP describing the Project and potential environmental effects is available at the following locations:

- Orange County Public Library, Seal Beach Branch, 707 Electric Avenue, Seal Beach, CA 90740
- Orange County Public Library, Los Alamitos-Rossmoor Branch, 12700 Montecito, Seal Beach, CA 90740

PUBLIC NOTICE
CITY OF SEAL BEACH COMMUNITY DEVELOPMENT

- The City's website: https://www.sealbeachca.gov/Departments/Community-Development/Planning-Development/Environmental-Documents-Under-Review.

Notice of Preparation And Scoping Meeting for the City of Seal Beach Housing Element and Zoning Code Updates Project Environmental Impact Report

DATE: November 16, 2023

TO: Reviewing Agencies and Other Interested Parties

FROM: City of Seal Beach, Community Development Department, 211 Eighth Street Seal Beach, California 90740

PROJECT TITLE/SUBJECT: City of Seal Beach Housing Element and Zoning Code Updates Project – Notice of Preparation of an Environmental Impact Report (EIR) and Notice of Public Scoping Meeting

PROJECT APPLICANT: City of Seal Beach

NOTICE OF PREPARATION REVIEW PERIOD: November 16, 2023 – December 15, 2023

SCOPING MEETING: December 6, 2023

The purpose of this Notice of Preparation (NOP) is to notify potential Responsible Agencies (Agencies) that the Lead Agency, the City of Seal Beach (City), will prepare an Environmental Impact Report (EIR) for the proposed City of Seal Beach Housing Element and Zoning Code Updates Project (Project) and to solicit comments and suggestions regarding (1) the scope and content of the EIR and (2) the environmental issues and alternatives to be addressed in the EIR (California Environmental Quality Act [CEQA] Guidelines Section 15082). This NOP also provides notice to interested parties, organizations, and individuals of the preparation of the EIR and requests comments on the scope and contents of the environmental document.

Project Location: The Project site is currently comprised of 13 Housing Opportunity Sites dispersed throughout the City totaling approximately 278 acres. The City located at the northwestern edge of Orange County (County), California. It borders the City of Long Beach and Los Angeles County to the northwest, the Orange County Cities of Los Alamitos to the north, Westminster to the east, Huntington Beach to the southeast, and the Pacific Ocean to the west. The City has a land area of approximately 13 square miles.

PROJECT OVERVIEW

In accordance with California Government Code Section 65584, projected housing needs for each city and county in the Southern California region are prepared by Southern California Association of Governments (SCAG) under a process known as the Regional Housing Needs Assessment (RHNA). The RHNA allocates regional housing needs by income-level among member jurisdictions. California law established the planning period for the current RHNA from June 30, 2021, to October 15, 2029.

The Housing Element is one of the seven state-mandated elements of a local General Plan and is required to be updated every eight years. The City is preparing the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. It is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle.

Background: An Initial Study was prepared for the City to evaluate potential environmental impacts resulting from the implementation of the City's recent Housing Element Update, which was adopted by the Seal Beach City Council on February 7, 2022, but updated on August 24, 2023 in response to HCD comments, and identifies the City's housing conditions and needs and establishes the policies and programs that comprise the City's strategy to accommodate projected housing needs, including the provision of adequate housing for lower-income households and for special-needs populations (i.e., unhoused people, seniors, single-parent households, large

families, and persons with disabilities). The City is continuing to work with HCD to have the Housing Element Update certified and obtain compliance, as the Housing Element is one of the state-mandated elements of the General Plan. The Housing Element Update would bring the element into compliance with state legislation and the current SCAG RHNA.

The Housing Element Update includes the following components, as required by state law:

- An analysis of the City's demographic and housing characteristics and trends;
- An evaluation of land, financial, and administrative resources available to address the City's housing goals;
- A review of potential constraints, both governmental and non-governmental, to meet the City's housing needs; and
- A Housing Action Plan for the 2021-2029 planning period, including goals policies and programs.

The Housing Element Update identifies the following strategies and programs that focus on the following major goals:

- Facilitate the development of a variety of housing types for all income-levels to meet the existing and future needs of residents;
- Assist in the development of adequate housing to meet the needs of low- and moderate-income households;
- Address and, where appropriate and legally possible; remove governmental constraints to the maintenance, improvement and development of housing;
- Maintain and enhance the existing quality of residential neighborhoods in Seal Beach; and
- Affirmatively further fair housing opportunities for all persons regardless of race, color, national origin, ancestry, religion, sex, marital status, income, or familial status.

Regional Housing Needs Assessment (RHNA): In March 2021, SCAG adopted its 6th cycle RHNA allocation plan, covering the planning period of October 2021 through October 2029. During this cycle, SCAG received a need of 1,341,827 new housing units, which was distributed to all 197 SCAG jurisdictions (SCAG 2023). HCD compliance requires a demonstration by the City that it can meet its "fair share" of the RHNA allocation of 1,243 new housing units.

The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories. The City must demonstrate to HCD that the Housing Element Update has adequate land capacity and implementing policies to accommodate its RHNA allocation. In addition, HCD recommends that cities identify a "buffer" of 15 to 30 percent above the stated RHNA allocation for lower- and moderate-income categories to account for "No Net Loss" provisions of Senate Bill (SB) 166, which requires that the land inventory and site identification programs in the Housing Element Update always include sufficient sites to accommodate the unmet RHNA.

Project Description: The Project analyzes potential impacts resulting from implementation of the City's Housing Element Update and its resulting zoning code update and rezoning program. The Housing Element Update identifies Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's RHNA allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed.

The Housing Opportunity Sites inventory consists of three underutilized sites with a realistic potential for residential development and potential ADUs, as summarized in Table 1 below.

Table 1: Underutilized Sites Inventory (Rezoning Not Required)

Site No.	Address/ APN	General Plan/ Zoning	Approx. Acres	Existing Onsite Use(s)	Assumed Density (Dwelling Units per Acre)	Lower-Income Dwelling Units	Moderate-Income Dwelling Units	Above Moderate-Income Dwelling Units	Total Units
1	1780 Pacific Coast Hwy (APN 199-061-01)	Limited Commer-cial/ RMD-18	0.25	Older convenience store; zoning allows mixed-use	20	--	5	--	5
2	Leisure World (APN 095-691-04)	Residential High Density – Planned Community	5.5	RV Storage	30	74	38	38	150
3	Accessory Dwelling Units	All Residential and Mixed-Use Zones	N/A	Residential and Mixed-Use Zones	N/A	36	14	--	50
	TOTAL					110	57	38	205
Source: City of Seal Beach 2021-2029 Housing Element Update, Redline August 24, 2023 Version.									

The City's RHNA allocation for the current cycle calls for accommodating 1,243 new housing units at low-, moderate-, and above moderate-income levels. Of this total allocation, there are eight planned or recently approved ADUs that are anticipated for development, as well as 85 units currently planned or recently approved on underutilized sites, which can be counted towards the City's overall unit requirement.

Because the current capacity of these underutilized sites is not sufficient to fully accommodate the RHNA allocation in all income categories, due to zoning and other limitations, proposed rezone sites have been identified, as shown in Table 2, below.

Table 2: Proposed Rezone Sites (Unless Military)

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
4	Accurate Storage	095-791-18	Vehicle and boat storage	4	1.8	RHD-20	MC/RHD
5	The Shops at Rossmoor	086-492-51	Retail, office, fast food, grocery and pharmacy	27	10	GC	MC/RHD
6	Old Ranch Town Center	130-861-14, -15, -16, -17, -18, -19, -	Existing commercial center with bank,	26	5	GC	MC/RHD

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
		20, -21, -22, -23, -24, -25, -26, -27	surface parking, restaurants, department stores, retail, services, Ralph's supermarket, and CVS Pharmacy				
7	Seal Beach Plaza	095-641-44, -49, -55, -56, -57	Existing commercial center with Chase Bank, retail, market, drive through restaurant, and medical and professional offices	7	2.5	CS-SC	MC/RHD
8	Seal Beach Center	043-260-02, -05	Existing commercial center with CVS Pharmacy, retail, services, restaurant, and market	9	4	SC	MC/RHD
9	99 Marina Drive	199-011-10	Former oil separation facility with abandoned handball court	4.3	4.3	OE	RHD-33
10	Old Ranch Country Club ****	130-012-55	Portion of existing golf course	155	4	RG	SP
11	Naval Weapons Station PCH & Seal Beach Blvd. **	043-150-23	Portion of Naval Weapons Station Seal Beach	22	4	M	N/A
12	Water Storage Site (City Property Navy Base) **	--	Water and Equipment Storage	2.75	2	M	N/A
13	Main Street ***	043-112-21, -22, -23, -28, -29, -34, -35, -36, -41;	Existing Main Street Specific Plan commercial district, including retail, services,	15	N/A	MSSP	MSSP

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
		043-113-04, -08, 14, -15, -36, -37, -42, -46, -48, 51; 199-053-18, -19, -20, -21, -22, -23, -24, -25, -26, -28, -29, -30, -31; 199-043-10; -11, -12, -13, -14, -15, -16, -17, -18, -19, -20; 199-033-02; 199-034-01, -02, 03, -04, -05, -06, -07, -08, -09, -10, -11, -12, -13, -14, -15, -16, -17, -36; 199-044-19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34	offices, parking areas, restaurants and bars, theater, medical offices, plant nursery and other shops and retailers				

Source: City of Seal Beach 2021-2029 Housing Element Update, August 2023.

Notes:* The City will create a new Mixed Commercial/Residential High Density (MC/RHD). The new mixed-use zoning designation would need to be created to facilitate a density equivalent to Residential High Density (RHD)-46, with a minimum density of 40 units per acre.

** Zoning Not Applicable

*** Specific Plan Amendment Required

**** Land Use Change / Rezoning Required

GC = Commercial General

OSG = Open Space Golf

OE = Oil Extraction

RG = Recreation Golf

CS = Commercial Service

SC = Service Commercial

MC/RHD = Mixed Commercial/Residential High

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
M = Military MSSP = Main Street Specific Plan							

Of the 13 Housing Opportunity Sites, six would require rezoning, one would be rezoned through a proposed Specific Plan, and one would require an amendment to the Main Street Specific Plan. The rezoning effort would also include the establishment of a new zoning designation, "Mixed Commercial/Residential High Density" (MC/RHD), which would apply to five of the Housing Opportunity Sites. The new MC/RHD mixed-use zoning designation is needed in order to facilitate a density equivalent to Residential High Density (RHD)-46 (up to 46 units per acre) but with a minimum density of 40 units per acre.

Redevelopment of underutilized sites and ADUs could accommodate a total of approximately 205 new housing units, and potential rezone parcels could accommodate a total of approximately 1,628 new housing units. Based on this, by implementing the Project, the City would be able to provide 1,833 additional housing units, thereby accommodating the 2021-2029 RHNA allocation (1,243 new housing units) and a substantive buffer to demonstrate capacity for all income levels.

As these Housing Opportunity Sites are intended to be redeveloped or rezoned, an increased densification and intensification of low- and moderate-income residential uses would result. The proposed Project is ultimately implementing the Housing Element Update; therefore, preparation of an evaluation pursuant to CEQA is required in order to consider the potential environmental impacts caused by Project implementation, including an evaluation of the new zoning and the new zoning designation resulting from Project implementation which would result in increased densification and intensification of residential uses.

Required Approvals

The Housing Element is a component of the City of Seal Beach General Plan. Additionally, the HCD will review the Housing Element for compliance with applicable statutory provisions.

A focused EIR will provide the necessary environmental determination required by CEQA. The focused EIR would be adopted by Resolution of the City Council.

Implementation of the Project would require the following approvals:

- Certification of the CEQA document;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Adoption of the Findings of Facts and Statement of Overriding Consideration (if applicable);
- Change of Zone/Specific Plan Amendment; and
- Seal Beach Municipal Code, Zoning Code Amendment.

ENVIRONMENTAL ISSUES TO BE EVALUATED IN THE EIR

The City of Seal Beach, the lead agency for the proposed 6th Cycle Housing Element Update and focused EIR, is subject to environmental review under CEQA. As defined by Section 15063 of the CEQA Guidelines, an Initial Study is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an EIR, Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project. The Initial Study prepared for the proposed Project has determined that the proposed applications will result in potentially significant environmental impacts and therefore, an EIR is deemed as the appropriate document to provide necessary

environmental evaluations and clearance for the proposed Project.

Pursuant to CEQA, the discussion of potential effects on the physical environment is focused on those impacts that may be significant or potentially significant. CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (Public Resource Codes (PRC) Section 21100, CCR Sections 15126.2[a] and 15128). CEQA requires that the discussion of any significant effect on the environment be limited to substantial, or potentially substantial, adverse changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (statutory definition of "environment").

Environmental effects identified in the Initial Study prepared for the proposed project that are dismissed as less than significant and unlikely to occur need not be discussed further in the EIR, unless the lead agency subsequently receives information inconsistent with the finding in the Initial Study (CCR Section 15143). Environmental issue areas scoped out of the focused EIR will include an explanation of why these issues would not result in significant environmental effects and are not required to be evaluated further. The following environmental topics will be evaluated in the EIR:

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

The EIR will address the short-term and long-term effects of the Project on the environment. It will also evaluate the potential for the Project to cause direct and indirect growth-inducing impacts, as well as cumulative impacts. Alternatives to the proposed Project will be evaluated that may reduce impacts that are determined to be significant in the EIR. Mitigation may be proposed for those impacts that are determined to be significant. A mitigation monitoring and reporting program (MMRP) will also be developed as required by Section 15097 of the CEQA Guidelines. The environmental determination in this Notice of Preparation (NOP) is subject to a 30-day public review period per Public Resources Section 21080.4 and CEQA Guidelines Section 15082. Public agencies, interested organizations, and individuals have the opportunity to comment on the proposed Project, to identify those environmental issues, potentially affected by the Project which should be addressed further by the City in the EIR.

Scoping Meeting: Pursuant to Section 21083.9 of the Public Resources Code, a scoping meeting will be held for the general public and responsible and trustee public agencies, as indicated below. The purpose of the scoping meeting is to learn about the Project, review the anticipated scope of the EIR, and assist the City in identifying the range of actions, alternatives, mitigation measures, and potentially significant effects to be analyzed in depth in the EIR.

Scoping Meeting Date	Scoping Meeting Time	Scoping Meeting Location
December 6, 2023	6:00 PM	City Council Chambers 211 Eighth Street Seal Beach, California 90740

Public Review and Comment Period: A 30-day public review period for comments on the scope of the EIR starts on **Thursday November 16, 2023,** and ends on **Friday December 15, 2023** at **5:00 P.M.** Please send your comment, with your name and address, to: Alexa Smittle, Community Development Director, City of Seal Beach, Community Development Department, 211 Eighth Street, Seal Beach, CA 90740 or via e-mail to: ASmittle@sealbeachca.gov.

A copy of the Initial Study/NOP describing the Project and potential environmental effects is available at the following locations:

- Orange County Public Library, Seal Beach Branch, 707 Electric Avenue, Seal Beach, CA 90740
- Orange County Public Library, Los Alamitos-Rossmoor Branch, 12700 Montecito, Seal Beach, CA 90740
- The City's website: https://www.sealbeachca.gov/Departments/Community-Development/Planning-Development/Environmental-Documents-Under-Review.

Stantec

CITY OF SEAL BEACH HOUSING ELEMENT AND ZONING CODE UPDATES

Initial Study

November 16, 2023

Prepared for:
City of Seal Beach
Community Development Department
211 Eighth Street
Seal Beach, CA 90740

Prepared by:
Stantec Consulting Services Inc.
1340 Treat Blvd, Suite 300
Walnut Creek, CA 94597

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Acronyms / Abbreviations

AAQS	Ambient Air Quality Standard
AB	Assembly Bill
ADU	accessory dwelling unit
AF	acre-feet
amsl	above mean sea level
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
BMP	best management practices
Cal EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCC	California Coastal Commission
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Seal Beach
CNEL	community noise equivalent level
County	Orange County
CO_2	carbon dioxide
DAMP	Drainage Area Management Plan
dB	decibel
DOC	California Department of Conservation
DOF	Department of Finance
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESA	environmental site assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Responsibility Area
General Plan	City of Seal Beach 2003 General Plan
GHG	greenhouse gas

GWh	gigawatt-hours
GWRS	Groundwater Replenishment System
HCD	California Department of Housing and Community Development
HCP	Habitat Conservation Plan
HFC	hydrofluorocarbons
Housing Element Update	2021-2029 Housing Element Update
ISMND	Initial Study Mitigation Negative Declaration
I/L ratio	ratio of improvement value to land value
LCP	Local Coastal Program
LHMP	Local Hazard Mitigation Plan
Los Al USD	Los Alamitos Unified School District
MG	million gallons
MGD	million gallons per day
MRZ	Mineral Resource Zone
MWDOC	Municipal Water District of Orange County
NCCP	Natural Community Conservation Plan
NPDES	National Pollutant Discharge Elimination System
NOP	Notice of Preparation
NOx	oxides of nitrogen
NWR	National Wildlife Refuge
N_2O	nitrous oxide
OC San	Orange County Sanitation District
OCFA	Orange County Fire Authority
OCTA	Orange County Transportation Authority
OCTAM	Orange County Transportation Analysis Model
OCWD	Orange County Water District
OE	Oil Extraction
OPR	Governor's Office of Planning and Research
O_3	ozone
PFC	perfluorocarbons
$PM_{2.5}$	fine inhalable particulate matter
PM_{10}	coarse inhalable particulate matter
PRC	Public Resources Code
Project; proposed Project	City of Seal Beach General Plan Zoning Code Updates Project
RHD-20	residential high density
RHNA	Regional Housing Needs Assessment
RPS	Renewables Portfolio Standards
SB	Senate Bill

SBPD	Seal Beach Police Department
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SF_6	sulfur hexafluoride
SoCAB	South Coast Air Basin
SoCalGas	Southern California Gas Company
SR	State Route
SRA	State Responsibility Area
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled

1.0 INTRODUCTION

1.1 PROJECT TITLE

City of Seal Beach Housing Element and Zoning Code Updates Project (Project, proposed Project)

1.2 LEAD AGENCY NAME AND ADDRESS

City of Seal Beach
Community Development Department
211 Eighth Street
Seal Beach, CA 90740

1.3 CONTACT PERSON AND PHONE NUMBER

Alexa Smittle, Community Development Director
Community Development Department
211 Eighth Street
Seal Beach, CA 90740
(562) 431-2527 x1313

1.4 PROJECT SPONSOR'S NAME AND ADDRESS

City of Seal Beach
211 Eighth Street
Seal Beach, CA 90740

1.5 PROJECT LOCATION

The Project site is currently comprised of 13 identified sites[1] dispersed throughout the City of Seal Beach, California (City; Seal Beach) and totaling approximately 278 acres. The City is located at the northwestern edge of Orange County (County), California. It borders the City of Long Beach and Los Angeles County to the northwest, the Orange County Cities of Los Alamitos to the north, Westminster to the east, Huntington Beach to the southeast, and the Pacific Ocean to the southwest, as shown in Figure 1. The City has a land area of approximately 13 square miles, as shown in Figure 2.

[1] The Housing Element proposes an increase in accessory dwelling units (ADUs) that may be located in any residential or mixed-use area by right. Though ADUs are exempt from CEQA, and their respective locations are unknown at this time, the Housing Element collectively refers to them as a "site" (Opportunity Site 3) in order to recognize the contribution they make to housing production as required by the Housing Element. Therefore, the potential ADU sites are identified as one collective Housing Opportunity Site resulting in a total of 13 identified Housing Opportunity Sites.

1.6 SURROUNDING LAND USES

As the existing land uses are comprised of a variety of land uses across the city, the surrounding land uses are similarly varied in character. They consist of residential development, vacant land, commercial and retail uses, parking lots, mobile home parks, institutional and industrial uses, and military uses as well as other urban and suburban land uses throughout the City.

1.7 PROJECT PURPOSE

In accordance with California Government Code Section 65584, projected housing needs for each city and county in the Southern California region are prepared by Southern California Association of Governments (SCAG) under a process known as the Regional Housing Needs Assessment (RHNA). The RHNA allocates regional housing needs by income-level among member jurisdictions. California law established the planning period for the current RHNA from June 30, 2021, to October 15, 2029.

The Housing Element is one of the seven state-mandated elements of a local General Plan and is required to be updated every eight years. The City is preparing the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. It is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle.

In addition to including goals, policies, and implementation programs regarding housing issues, housing elements must include an inventory or list of housing sites at sufficient densities to accommodate a specific number of units at various levels of affordability assigned to the City by SCAG. The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories.

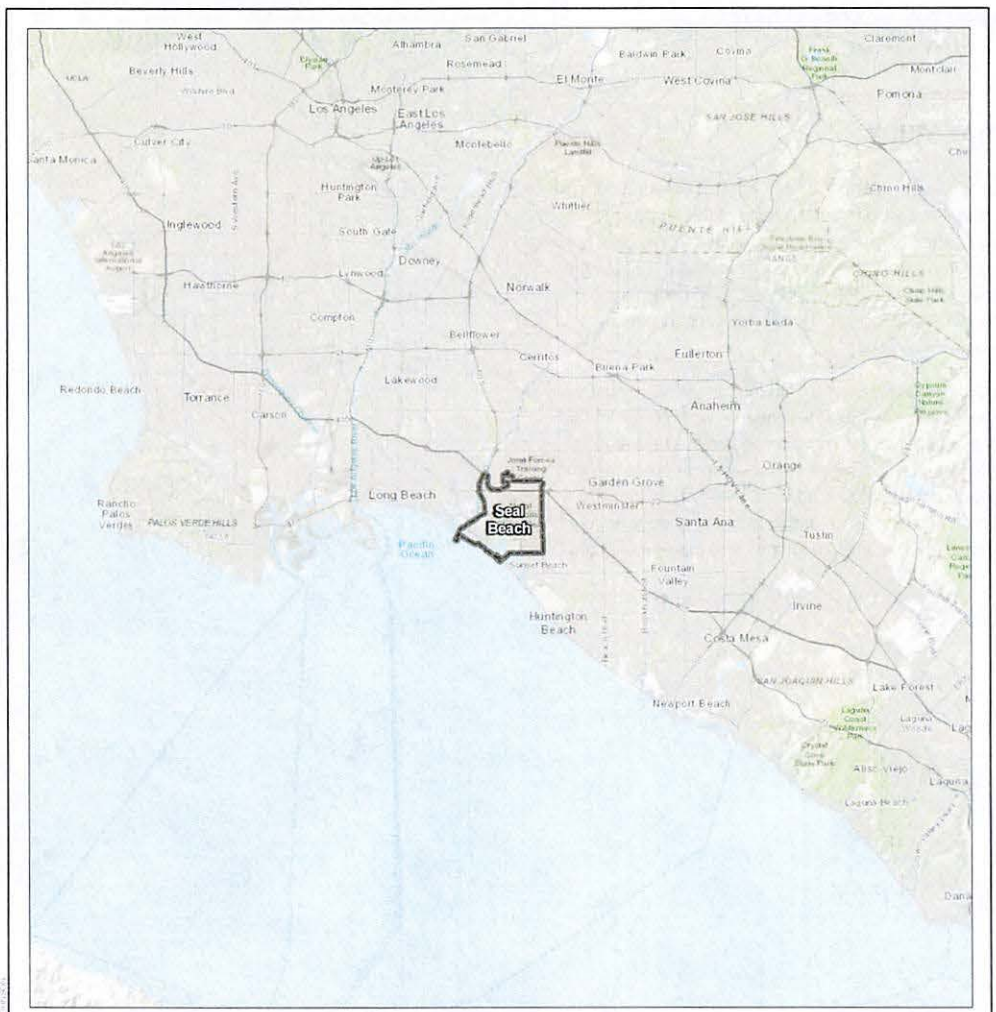
The Housing Element Update identifies Housing Opportunity Sites throughout the City, as shown on Figure 3, that have the potential for providing additional housing to meet the City's RHNA allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed. In Seal Beach, the Housing Opportunity Sites uniquely include two sites located on the Seal Beach Naval Weapons Station, where the City has no zoning authority, but housing development would present a change of use. Of the 13 Housing Opportunity Sites, six would require rezoning, the two Seal Beach Naval Weapons Station sites would require a change of use, one is proposed for a Specific Plan, and one would require an amendment to the Main Street Specific Plan (MSSP). The rezoning effort would also include the establishment of a new zoning designation, "Mixed Commercial/Residential High Density" (MC/RHD), which would apply to five of the Housing Opportunity Sites. The new MC/RHD mixed-use zoning designation is needed in order to facilitate a density equivalent to Residential High Density (RHD)-46 (up to 46 units per acre) but with a minimum density of 40 units per acre.

As these Housing Opportunity Sites are intended to be redeveloped or rezoned, an increased densification and intensification of low- and moderate-income residential uses would result.

1.8 INTENDED USE OF THE INITIAL STUDY

This Initial Study is an informational document intended to inform the lead agency, other responsible or interested agencies, and the general public of potential environmental effects of the proposed Project. The environmental review process has been established to enable public agencies to evaluate potential environmental consequences and to examine and implement methods of eliminating or reducing any potentially significant adverse impacts. This document is intended to aid the City in determining the appropriate California Environmental Quality Act (CEQA) document needed to support agency discretionary approvals, permits, and consultations.

The proposed Project is ultimately implementing the Housing Element Update; therefore, preparation of an evaluation pursuant to CEQA is required in order to consider the potential environmental impacts caused by Project implementation, including an evaluation of the new zoning and the new zoning designation resulting from Project implementation which would result in increased densification and intensification of residential uses. The Housing Element Update includes an inventory of Housing Opportunity Sites located throughout the City, some of which are intended to be rezoned to accommodate the RHNA allocation of new housing units that would also be suitable for low- and moderate-income units.



Legend

City of Seal Beach Boundary

0 3 6 Miles

Stantec

Project Location
Seal Beach, CA

Prepared by KJ on 2023-11-14
Review by AR on 2023-11-14

Client/Project
City of Seal Beach

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources
Basemap and Source: Esri, HERE, Garmin

Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

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Housing Element and Zoning Code Updates Initial Study

Figure No

1

Title

Regional Location

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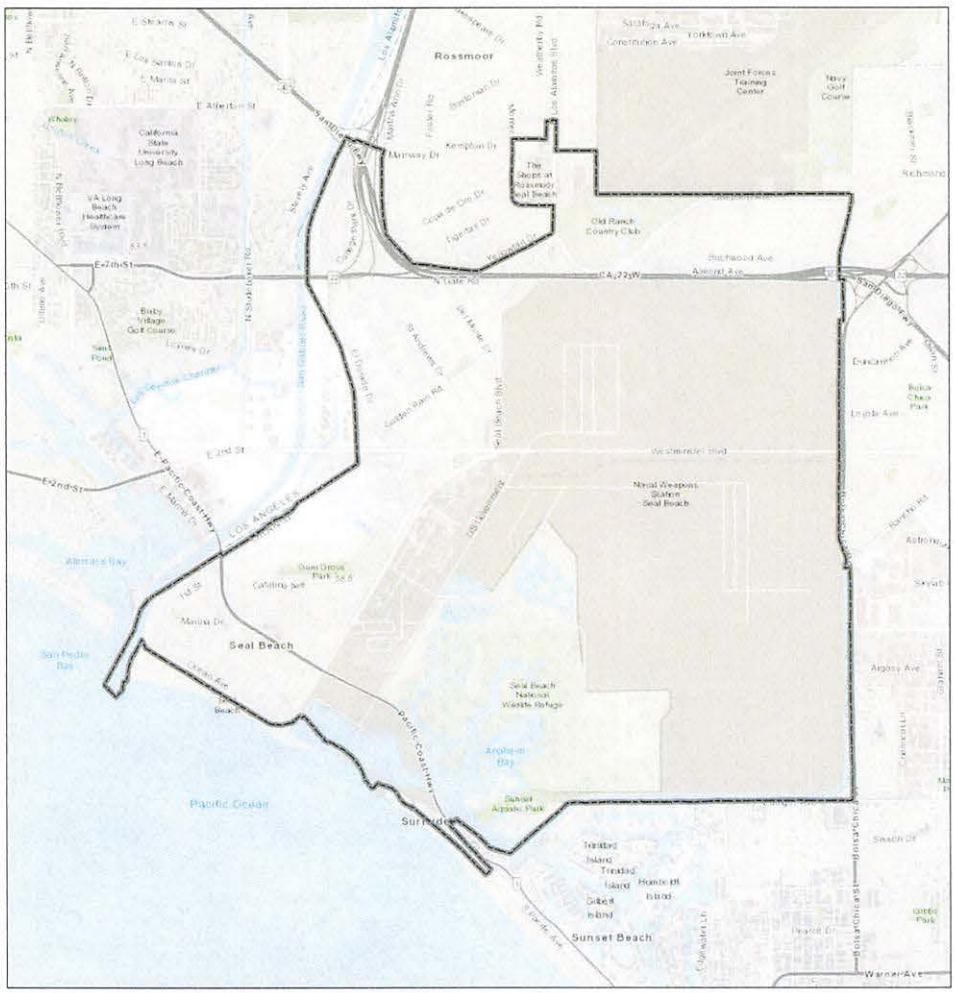

Legend

City of Seal Beach boundary

0 0.25 0.5 Miles

Original document size of 8.5x11)

Stantec

Project Location
Seal Beach, CA

Prepared by KJ on 2023-11-14
Review by AR on 2023-11-14

Client/Project
City of Seal Beach

Notes
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Housing Element and Zoning Code Updates Initial Study

Figure No.

2

Title

City of Seal Beach Map

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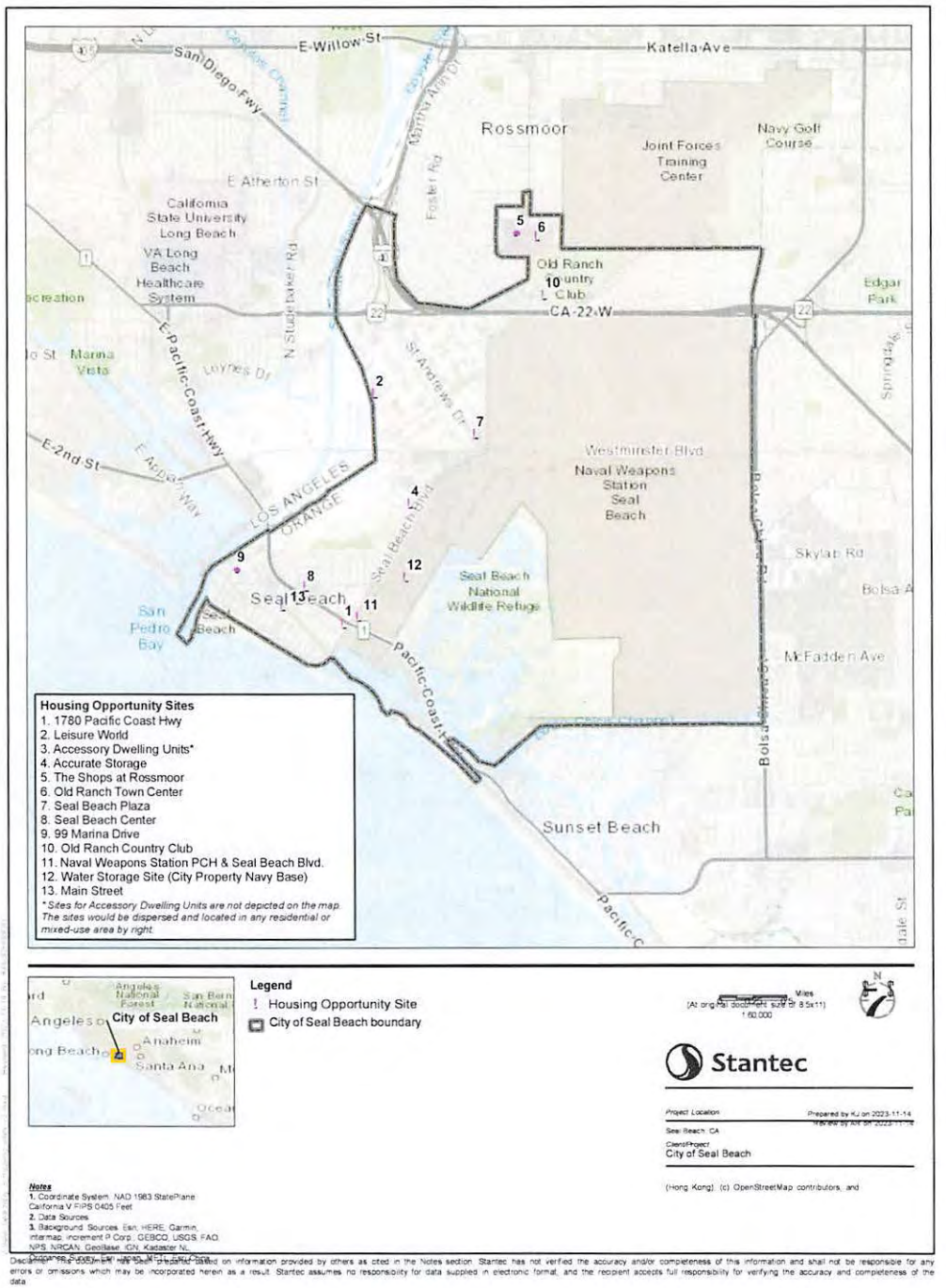

Legend
- ! Housing Opportunity Site
- City of Seal Beach boundary

Miles
(At original document size of 8.5x11)
1:60,000

Stantec

Project Location
Seal Beach, CA

Prepared by KJ on 2023-11-14
Reviewed by AY on 2023-11-14

Client/Project
City of Seal Beach

(Hong Kong), (c) OpenStreetMap contributors, and

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources:
3. Background Sources: Esri, HERE, Garmin, intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

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Housing Element and Zoning Code Updates Initial Study

Figure No

3

Title

Housing Opportunity Sites Map

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2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The Seal Beach City Council adopted the City of Seal Beach's Housing Element Update on February 7, 2022. In response to California Department of Housing and Community Development (HCD) comment, the City updated the Housing Element Update on August 24, 2023. The City is preparing the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. It is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle. The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories.

The Housing Element Update identifies an inventory of Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's RHNA allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed. Of the 13 Housing Opportunity Sites, six would require rezoning, the two Seal Beach Naval Weapons Station sites would require a change of use, one is proposed for a Specific Plan, and one would require an amendment to the MSSP. The City's rezoning effort would also include the establishment of a new zoning designation, MC/RHD, which would apply to five of the Housing Opportunity Sites. The new MC/RHD mixed-use zoning designation is needed in order to facilitate a density equivalent to RHD-46 (up to 46 units per acre) but with a minimum density of 40 units per acre. This new zone district would facilitate housing for lower-income households as required by the state's RHNA allocation for the City and facilitate the inclusion of affordable units.

2.2 HOUSING ELEMENT UPDATE

This Initial Study is prepared for the City to evaluate potential environmental impacts resulting from the implementation of the City's recent Housing Element Update, which was adopted by the Seal Beach City Council on February 7, 2022, and updated on August 24, 2023 in response to HCD comments. It identifies the City's housing conditions and needs and establishes the policies and programs that comprise the City's strategy to accommodate projected housing needs, including the provision of adequate housing for lower-income households and for special-needs populations (i.e., unhoused people, seniors, single-parent households, large families, and persons with disabilities). The City is continuing to work with HCD to certify the Housing Element Update. The Housing Element Update would bring the element into compliance with state legislation and the City's current RHNA allocation.

In March 2021, SCAG adopted its 6th cycle RHNA allocation plan, covering the planning period of October 2021 through October 2029. During this cycle, SCAG received a need of 1,341,827 new housing units, which was distributed to all 197 SCAG jurisdictions (SCAG 2023). HCD compliance requires a demonstration by the City that it can meet its "fair share" of the RHNA allocation of 1,243 new housing units.

The Housing Element Update includes the following components, as required by state law (City of Seal Beach 2022):

- An analysis of the City's demographic and housing characteristics and trends;
- An evaluation of land, financial, and administrative resources available to address the City's housing goals;
- A review of potential constraints, both governmental and non-governmental, to meet the City's housing needs; and
- A Housing Action Plan for the 2021-2029 planning period, including goals policies and programs.

The Housing Element Update identifies the following strategies and programs that focus on the following major goals:

- Facilitate the development of a variety of housing types for all income-levels to meet the existing and future needs of residents;
- Assist in the development of adequate housing to meet the needs of low- and moderate-income households;
- Address and, where appropriate and legally possible; remove governmental constraints to the maintenance, improvement and development of housing;
- Maintain and enhance the existing quality of residential neighborhoods in Seal Beach; and
- Affirmatively further fair housing opportunities for all persons regardless of race, color, national origin, ancestry, religion, sex, marital status, income, or familial status.

The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories. The City must demonstrate to HCD that the Housing Element Update has adequate land capacity and implementing policies to accommodate its RHNA allocation. In addition, HCD recommends that cities identify a "buffer" of 15 to 30 percent above the stated RHNA allocation to account for "No Net Loss" provisions of Senate Bill (SB) 166, which requires that the land inventory and site identification programs in the Housing Element Update always include sufficient sites to accommodate the unmet RHNA. Based upon HCD's buffer policy, Seal Beach must plan for a minimum of 1,430 new housing units. In its current iteration, the August 2023 Housing Element plans for 1,833 new housing units to be conservative in its approach to the RHNA and anticipating additional modifications may be required by HCD.

2.2.1 Rezoning and Creating of New Zoning Designation

Program 1B of the Housing Element Update commits to a rezoning program that facilitates housing for lower-income households as required by the state's RHNA allocation for the City. As described, in order to implement housing development at some of the proposed Housing Opportunity Sites and address constraints on the development of housing for a variety of income-levels, the City must establish a new

zoning designation, MC/RHD, which would apply to five of the Housing Opportunity Sites, facilitating residential development at what are generally commercial sites currently. The new MC/RHD mixed-use zoning designation would facilitate a residential density of RHD-46 (up to 46 units per acre) with a minimum density of 40 units per acre to better facilitate development of housing affordable to lower income levels in accordance with HCD policy. Other changes to zoning designations include implementation of a proposed Specific Plan which includes proposed housing and for which an independent Environmental Impact Report is being prepared; revisions to the existing MSSP to allow for second-story residential use; and rezoning a former oil extraction property to residential use,

The actions described above would result in a change to the permitted uses and development standards on eight of the Housing Opportunity Sites to align with the densities identified in the Housing Opportunity Sites Residential Development Potential list (Table 4, below). In addition, the City has a unique circumstance with the two sites located on Seal Beach Naval Weapons Station, where the Housing Element proposes a change in use, but the City has no zoning authority, therefore these sites will not be rezoned through the City's Zoning Code but growth is nonetheless planned for in the Housing Element.

Housing Element Update Program 1B

The proposed new zoning designation of MC/RHD will consider how to accommodate State requirements and policies to allow for: a minimum residential density of 40 units per acre and maximum residential density of 46 units per acre on larger, developed sites large enough size to permit: at least 16 units; exclusively residential uses; at least 50 percent of the building floor area of a mixed-use development to be dedicated to residential uses; and housing by-right with at least 20 percent of the units affordable to lower-income households. The definitions of "persons and families of low- and moderate-income," "lower-income households," and "very low-income households" as set forth in Health and Safety Code Sections 50079.5, 50093, and 50150 shall apply. The City shall engage with affected property owners, the Building Industry Association, affordable housing developers, and other stakeholders during the zoning process to ensure the development standards can result in the development of the maximum number of units allowed and facilitate the inclusion of affordable units.

2.3 REGIONAL HOUSING NEEDS ASSESSMENT

SCAG has allocated the region's 1,341,827 housing unit growth needs among the 197 jurisdictions in the region, including cities and counties, through the adopted its 6th cycle RHNA allocation plan, covering the planning period of October 2021 through October 2029. The RHNA represents the minimum number of housing units that the City's sites inventory must accommodate for in its Housing Element Update, through its General Plan and Zoning. The City's RHNA allocation is 1,243 new housing units, which is distributed among four income categories, consisting of 258 very low-, 201 low-, 239 moderate-, and 545 above moderate-income units (SCAG 2021).

2.3.1 Existing Site Conditions

The City has identified an inventory of sites across all areas of the city to implement programs to meet its RHNA. The City's current base zoning, including the General Plan land use designation implemented by zoning designation, are provided in Table 1, below.

Table 1: Current Zoning and General Plan Land Use Designations

Zoning	Abbreviation	General Plan Designation Implemented by Zoning
Base Residential Zoning Districts		
Residential Low Density – 9[a]	RLD-9	Residential Low Density
Residential Low Density – 15[a]	RLD-15	Residential Low Density
Residential Medium Density – 18[b]	RMD-18	Residential Medium Density
Residential High Density – 20[c]	RHD-20	Residential High Density
Residential High Density – 33[c]	RHD-33	Residential High Density
Residential High Density – 46[c]	RHD-46	Residential High Density
Base Mixed-Use, Commercial, and Industrial Districts		
Limited Commercial/Residential Medium Density[d]	L-C/RMD	Mixed Use
Main Street Specific Plan	MSSP	Main Street Specific Plan
Professional Office	PO	Professional Office
Service Commercial	CS/SC	Service Commercial
General Commercial	GC	General Commercial
Light Manufacturing	LM	Light Manufacturing
Oil Extraction	OE	Oil Extraction
Base Public and Semi-Public Park Districts		
Public and Semi-Public Facilities	PS	Community Facility and School
Recreation/Golf	RG	Open Space – Golf
Base Military, Open Space, and Park Districts		
Military	M	Military
Beach	BEA	Beach
Open Space Natural	OS-N	Open Space
Open Space Parks and Recreation	OS-PR	Park
Overlay District and Specific Plan Zone Regulations		
Residential Conservation Overlay	RC-O	All
Planned Unit Development Overlay	PUD/PD	All
Commercial/Park	C/P	All
Coastal Zone	CZ	All
Specific Plan Regulation	SPR	All

Source: City of Seal Beach, General Plan Zoning Map, 2013; City of Seal Beach Municipal Code and Zoning Ordinance, Chapter 11.1.05.030, 2021.

Zoning	Abbreviation	General Plan Designation Implemented by Zoning

Notes:

[a] Typical single-unit, and small, zero-lot line neighborhoods at a base density up to 9 or 15 dwelling units per net acre respectively.

[b] Duplexes, townhouse projects, apartments, and small-lot, single-unit residential uses, at a density of 15 to 18 dwelling units per net acre. Additional density may be achieved through density bonuses.

[c] Multi-unit residential developments at a base density of 20 to 46 dwelling units per net acre. Additional density may be achieved through density bonuses.

[d] Limited commercial and office uses in conjunction with residential uses.

2.3.2 Housing Opportunity Sites Categories

An important component of the City's Housing Element Update is the identification of sites for future housing development, including an evaluation of the adequacy of those sites in fulfilling the City's share of regional housing needs. Seal Beach is nearly built-out with almost no vacant developable land remaining. Therefore, the site inventory must rely primarily on non-vacant sites.

The inventory of Housing Opportunity Sites addresses fair housing objectives by providing opportunities for affordable housing throughout the city. Potential underutilized sites and ADUs also create opportunities for affordable housing dispersed throughout the city in low-density residential neighborhoods, thereby expanding affordable housing choices. The Housing Opportunity Sites are not concentrated in low-resource areas. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed.

Underutilized Sites

The Housing Opportunity Sites inventory consists of three underutilized sites with realistic potential for residential development and potential ADUs, as summarized in Table 2. The Housing Element proposes an increase in ADUs that may be located in any residential or mixed-use area by right. Though ADUs are exempt from CEQA, and their respective locations are unknown at this time, the Housing Element collectively refers to them as a "site" (Opportunity Site 3) in order to recognize the contribution they make to housing production as required by the Housing Element. Therefore, the potential ADU sites are identified as one collective Housing Opportunity Site resulting in a total of 13 identified Housing Opportunity Sites.

The City's RHNA allocation for the current cycle calls for accommodating 1,243 new housing units at low-, moderate-, and above moderate-income levels. Of this total allocation, there are eight planned or recently approved ADUs that are anticipated for development, as well as currently planned or recently approved on underutilized sites, which can be counted towards the City's overall unit requirement.

Because the current capacity of these underutilized sites is not sufficient to fully accommodate the RHNA allocation in all income categories, due to zoning and other limitations, proposed rezone sites have been identified, as shown in Table 2, below.

Table 2: Underutilized Sites Inventory (Rezoning Not Required)

Site No.	Address/APN	General Plan/ Zoning	Approx. Acres	Existing Onsite Use(s)	Assumed Density (Dwelling Units per Acre)	Lower-Income Dwelling Units	Moderate-Income Dwelling Units	Above Moderate-Income Dwelling Units	Total Units
1	1780 Pacific Coast Hwy (APN 199-061-01)	Limited Commercial/ RMD-18	0.25	Older convenience store; zoning allows mixed-use	20	--	5	--	5
2	Leisure World (APN 095-691-04)	Residential High Density – Planned Community	5.5	RV Storage	30	74	38	38	150
3	Accessory Dwelling Units	All Residential and Mixed-Use Zones	N/A	Residential and Mixed-Use Zones	N/A	36	14	--	50
	TOTAL					**110**	**57**	**38**	**205**

Source: City of Seal Beach 2021-2029 Housing Element Update, Redline August 24, 2023 (City of Seal Beach 2023a).

Proposed Rezone Sites

To accommodate the balance of the RHNA allocation and provide the required unit buffer, the City conducted an evaluation of potential properties where land use regulations could be amended to create additional opportunities for housing or mixed-use development, and 10 sites have been identified for further evaluation to determine the most appropriate parcels to be rezoned. Due to the lack of vacant and underutilized sites in the city, the sites were identified and analyzed in light of the development standards for their proposed zoning designation.

Initially, all parcels in the city were evaluated through a process of elimination based on criteria set by HCD. Where housing units could not be located at sites under present zoning, the City examined nonresidential areas where zoning amendments could facilitate residential development. A Housing Element Ad Hoc Committee was established and held two meetings to assist in identifying and evaluating potential sites for housing development. In addition, City staff contacted several property owners to assess interest in multi-family or mixed-use redevelopment. With the exception of the City-owned parcel on the Seal Beach Naval Weapons Station which was an addition to the draft Housing Element following the withdrawal of a site owned by the County of Orange, the sites listed in Table 3 were also reviewed by the Planning Commission and City Council at public hearings, and property owners and other interested stakeholders had the opportunity to provide comments on sites that should be considered for additional residential development.

The City analyzed the most current parcel-level data to determine which sites were most appropriate for inclusion into the site inventory and to estimate the number of additional units that are likely to be developed. Bearing in mind that most of the developable land within the City consists of established residential uses, most of these areas were eliminated from consideration, as land assembly in a single-family neighborhood was considered infeasible. To ensure sites selected for the site inventory do not have existing uses that are impediments to housing development, an analysis was conducted to select sites that are most likely to develop during the planning period. Development likelihood and feasibility was determined by a number of different variables, including the improvement-to-land value ratio (I/L ratio), existing lot coverage, lot size, future development potential, and existing uses. As the I/L ratio serves as an indicator of the likelihood of redevelopment, according to the Housing Element Update, a I/L ratio or less than 1.0 for commercial and multi-family residential properties indicates that the parcels are underutilized, with a higher potential for residential infill redevelopment.

Table 3: Proposed Rezone Sites (Unless Military)

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
4	Accurate Storage	095-791-18	Vehicle and boat storage	4	1.8	RHD-20	MC/RHD
5	The Shops at Rossmoor	086-492-51	Retail, office, fast food, grocery and pharmacy	27	10	GC	MC/RHD
6	Old Ranch Town Center	130-861-14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27	Existing commercial center with bank, surface parking, restaurants, department stores, retail, services, Ralph's supermarket, and CVS Pharmacy	26	5	GC	MC/RHD
7	Seal Beach Plaza	095-641-44, -49, -55, -56, -57	Existing commercial center with Chase Bank, retail, market, drive through restaurant, and medical and professional offices	7	2.5	CS-SC	MC/RHD

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
8	Seal Beach Center	043-260-02, -05	Existing commercial center with CVS Pharmacy, retail, services, restaurant, and market	9	4	SC	MC/RHD
9	99 Marina Drive	199-011-10	Former oil separation facility with abandoned handball court	4.3	4.3	OE	RHD-33
10	Old Ranch Country Club ****	130-012-55	Portion of existing golf course	155	4	RG	SP
11	Naval Weapons Station PCH & Seal Beach Blvd. **	043-150-23	Portion of Naval Weapons Station Seal Beach	22	4	M	N/A
12	Water Storage Site (City Property Navy Base) **	–	Water and Equipment Storage	2.75	2	M	N/A
13	Main Street ***	043-112-21, -22, -23, -28, -29, -34, -35, -36, -41; 043-113-04, -08, 14, -15, -36, -37, -42, -46, -48, 51; 199-053-18, -19, -20, -21, -22, -23, -24, -25, -26, -28, -29, -30, -31; 199-043-10; -11, -12, -13, -14, -15, -	Existing Main Street Specific Plan commercial district, including retail, services, offices, parking areas, restaurants and bars, theater, medical offices, plant nursery and other shops and retailers	15	N/A	MSSP	MSSP

Site No.	Site Name	Assessor's Parcel Number (APN)	Existing Onsite Use(s)	Approximate Acres	Estimated Developable Acres	Current Zoning	Proposed Zoning
		16, -17, -18, -19, -20; 199-033-02; 199-034-01, -02, 03, -04, -05, -06, -07, -08, -09, -10, -11, -12, -13, -14, -15, -16, -17, -36; 199-044-19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34					

Source: City of Seal Beach 2021-2029 Housing Element Update, August 2023.

Notes:* The City will create a new Mixed Commercial/Residential High Density (MC/RHD). The new mixed-use zoning designation would need to be created to facilitate a density equivalent to Residential High Density (RHD)-46, with a minimum density of 40 units per acre.

** Zoning Not Applicable

*** Specific Plan Amendment Required

**** Land Use Change / Rezoning Required

GC = Commercial General

OSG = Open Space Golf

OE = Oil Extraction

RG = Recreation Golf

CS = Commercial Service

SC = Service Commercial

MC/RHD = Mixed Commercial/Residential High

M = Military

MSSP = Main Street Specific Plan

2.3.3 Housing Opportunity Site Descriptions

The Housing Element Update currently includes descriptions for the Housing Opportunity Sites, with an explanation of the methodology for the sites that are currently developed with various uses. With respect to existing utility infrastructure, such as water, wastewater, drainage systems, and dry utilities, there are no known limitations that would preclude the potential development and increased intensification of uses

at each of the Housing Opportunity Sites. A description of the Housing Opportunity Sites is provided below, as taken from the August 24, 2023 Housing Element Update (City of Seal Beach 2023a).

Site 1 – 1780 Pacific Coast Highway (No Rezoning)

Location: 1780 Pacific Coast Highway (PCH; Pacific Coast Highway), at the eastern corner of the intersection of Pacific Coast Highway and Seal Beach Boulevard. The site has housing to the rear of it, and retail to the north. Across the street to the south is the Naval Weapons Station, and to the west are single family residential uses.

Size: 0.25 acre

Current Use: retail, specifically a small liquor store and a bait shop.

Current Zoning: Limited Commercial/Residential Medium Density (LC/RMD)

Reason For Selection: This parcel is developed with an older commercial building currently occupied by a liquor/convenience store. The site is immediately adjacent to housing, with access to goods and services.

Assumed Development Capacity: This zoning designation allows residential use at up to 20 units per acre. The site can reasonably accommodate a ground floor commercial use and parking, with five second-story housing units. Because of its small size, this parcel has been listed in the moderate-income site inventory, as shown in Table 4, below.

Site 2 – Leisure World (No Rezoning)

Location: Leisure World is a large, high-density residential senior community generally bound by Westminster Boulevard, Seal Beach Boulevard, Interstate (I)-405, and the Los Alamitos Flood Control Channel. The community currently has 6,608 units. The opportunity site within the development is located along the eastern border, about 0.33 mile from the southwestern corner of the community.

Size: 5.5 acres

Current Use: Recreational vehicle storage

Current Zoning: Residential High Density–Planned Development (RHD-PD)

Reason For Selection: The underutilized site is located in a community that, while not income-restricted, offers a variety of affordable housing options with more than 75 percent of the population in Leisure World consisting of low- to moderate-income households. The existing site zoning allows for residential high-density development.

Assumed Development Capacity: An additional 150 units can be accommodated at a density of 30 units per acre on approximately 5 acres presently devoted to recreational vehicle storage. As 75 percent of the population in Leisure World currently consists of low- to moderate-income households, Table 4,

below, projects half of the units as lower-income, one quarter at moderate, and the balance at market to be conservative.

Site 3 – Accessory Dwelling Units (No Rezoning)

Location: Throughout the City, in all residential and mixed-use zones.

Current Zoning: All Residential and Mixed-Use Zones

Reason For Selection: ADUs represent a significant opportunity for affordable housing, particularly for single persons or small households including the elderly, college students, young adults, and caregivers.

Assumed Development Capacity: While interest in ADUs has not historically been high in Seal Beach, recent changes to state law have increased awareness and interest. It has conservatively been assumed that 50 ADUs will be built during this planning cycle. Given that ADUs can introduce low-income units in high resource areas, the City would undertake a number of steps to promote the development of ADUs and consider development of incentives to make ADUs affordable to very low-income households. The City would monitor the effectiveness of its efforts twice a year and make adjustments as necessary.

SCAG conducted a regional survey and reported the results in August 2020. SCAG's research supports an assumption that 73 percent of ADUs could be affordable to lower-income households in the County (even assuming a 50/50 mix of one- and two-person households). Evidence from other jurisdictions throughout California indicates that between 17 and 50 percent of ADUs may be rent-free as the property owners provide housing for their adult children and/or aging parents. The inventory in Table 4, below, implements SCAG's assumption of 73 percent of units at lower-income, and the balance at moderate-income.

Site 4 – Accurate Storage (Rezoning Required)

Location: 1011 Seal Beach Boulevard. This site is bordered by office, commercial and light industrial uses to the north and west, by the City Police Station across Adolfo Lopez Drive to the south, and by the Seal Beach Naval Weapons Station across Seal Beach Boulevard to the east.

Size: 4.4 acres

Current Use: Self storage facility

Current Zoning: High Density Residential (RHD-20)

Reason For Selection: This site has been selected as a candidate housing site due to underutilized parking onsite, its proximity to services, and interest from the property owner. There are no known environmental constraints on this property, and the site has access to employment and transit routes.

Assumed Development Capacity: As the current zoning did not result in redevelopment of this site with residential uses, the development assumptions have been revised. The I/L ratio is less than 1.0 (0.54), indicating a likelihood for redevelopment, with conversion of the outdoor storage being the most likely to intensify in value. The indoor storage could remain in place and not be an impediment to development

due to the site plan and overall quality of development and maintenance of the site. Therefore, it is assumed that only 1.8 acres of the site will redevelop to housing, instead of the entire 4.4 acres. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up to 83 units, or more if a density bonus is employed. However, given the existing onsite buildings and the resulting limitations to development design, the projected number of units has been reduced to 59. Because the presumed developable area is less than two acres, Table 4, below, projects a conservative estimate of only 10 percent at lower-income and 10 percent at moderate-income, despite a proposed density of 46 units per acre.

Site 5 – The Shops at Rossmoor (Rezoning Required)

Location: This multi-address retail center is located on the west side of Seal Beach Boulevard between St. Cloud Drive and Rossmoor Center Way.

Size: 27 acres

Current Use: Retail center, with uses including Marshalls, Kohl's, Ulta, Sprouts Farmers Market, and Burlington

Current Zoning: General Commercial (CG)

Reason For Selection: This site was selected due to an abundance of underutilized parking accompanied by owner interest in development of housing units. The site's I/L ratio is less than 1.0 (0.85), meaning the site is economically underutilized, despite being a generally successful retail center. A new mixed-use zone would allow for greater flexibility to utilize the land. High-density residential uses are located adjacent to the property to the west, as such the site's proposed high-density use would be consistent with surrounding uses.

Assumed Development Capacity: The site is 27 acres, and surface parking occupies approximately 19 acres. It is assumed that 10 of the acres could be developed with housing. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up to 460 units, exclusive of a density bonus. Because of the ample development potential, Table 4, below, projects 25 percent of units at lower-income, 25 percent at moderate-income, and the balance at market rate.

Commented [SP3]: This is a very successful shopping center, much valued by the community for it's accessible location, accessible parking, and attactive and welcoming street facing design that invites us in to socialize, eat, rest, and shop. The EIR needs to assess if and exactly where there is an excess of parking, because that is not completely evident. If existing parking needs to be replaced with a multi-story parking garage in order to accommodate new residences, the inviting street-facing aesthetics could be ruined, hidden by an ugly concrete parking garage. We shouldn't have to turn Seal Beach's successful suburban shopping centers into an over-shadowing urban concrete blight like the Santa Monica Promenade. This potential impact on commerce and aesthetics needs to be studied in the EIR.

Site 6 – Old Ranch Town Center (Rezoning Required)

Location: This multi-address retail center is on the east side of Seal Beach Boulevard, between the Old Ranch Country Club golf course and Plymouth Drive.

Size: 26 acres

Current Use: Retail center including stores such as Target and Ralph's supermarket.

Current Zoning: General Commercial (GC)

Reason For Selection: Similar to the Shops at Rossmoor, the Old Ranch Town center has a significant amount of underutilized parking, and primarily big box uses. The addition of housing to this site is feasible

as it is immediately adjacent to goods and services, has access along a major thoroughfare, and can integrate with the scale of the existing development. The I/L ratio ranges by parcel, with the largest parcel at 0.95 and the second largest parcel at 0.07.

Assumed Development Capacity: It is assumed 20 percent of the center could be developed or redeveloped with housing uses. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up to 239 units. Because of the development potential, Table 4, below, projects 25 percent of units at lower-income, 25 percent at moderate-income, and the balance at market.

Site 7 – Seal Beach Plaza (Rezoning Required)

Location: This multi-address retail center is at the northwest corner of Seal Beach Boulevard and Westminster Boulevard. Two churches and Leisure World are to the north and west, and generally the Naval Weapons Station surrounds the other sides.

Size: 7 acres

Current Use: Retail and office/service uses.

Current Zoning: Service Commercial (SC)

Reason For Selection: This site's I/L ratio is less than 1.0 (0.72). Similar to other retail plazas, the site is underutilized with large parking areas. The site offers access to goods and services. The site is located adjacent to Leisure World where existing development is high-density.

Assumed Development Capacity: This site can be redeveloped entirely or partially as a mixed-use project; however, it is assumed that residential uses would be developed on 2.5 acres of the site. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up to 115 units. However, due to the smaller developable area, Table 4, below, conservatively estimates 10 percent of units at lower-income, 10 percent at moderate-income, and 80 percent at market rate.

Commented [SP4]: Please see previous comment on Page 3-12, regarding new residential development within existing commercial parking areas.

Site 8 – Seal Beach Center (Rezoning Required)

Location: This retail plaza is located on Pacific Coast Highway, between Balboa Drive and Bolsa Avenue. It is directly across Pacific Coast Highway from Main Street.

Size: 9 acres

Current Use: The center consists of two anchor stores, a Pavilions supermarket and a CVS Pharmacy, along with several smaller retail and restaurant tenant spaces.

Current Zoning: Service Commercial (SC)

Reason For Selection: This site has an I/L ratio less than 1.0 (0.72), indicating it is underutilized and could perform to a higher capacity. Its location provides walkability and access to goods and services, including an elementary school. A small mixed-use project could be undertaken using available parking

and redeveloping portions of the site with housing above retail. The property representatives have expressed an interest in mixed-use development as a future possibility to increase site utility.

Commented [SP5]: Please see comment on page 2-12 regarding potential parking, commercial, and aesthetic impacts of new residential developments in existing retail shopping centers.

Assumed Development Capacity: It is assumed that residential uses would be developed on 4.5 acres of the site. This site is proposed for rezoning to MC/RHD, allowing a density of 46 units per acre, yielding up 207 units, without using a density bonus. However, because the site is adjacent to low-density single-family use, and greater setbacks or step-backs may be appropriate in the revised zoning code, a lower development threshold of 120 units and 4 acres of developable area is assumed. While four acres is ample development capacity, because this opportunity site is directly across the street from single-family homes, Table 4, below, conservatively estimates 15 percent of the units at lower-income levels, 15 percent at moderate-income, and the balance at market despite being zoned at 46 units per acre.

Site 9 – 99 Marina (Rezoning Required)

Location: 99 Marina Drive, northeast of Marina Drive and First Street intersection.

Size: 4.3 acres

Current Use: Vacant. A handball court is located on the western edge of the property and the City maintains a small section of the property around the court as the court is located adjacent to a public park.

Current Zoning: Oil Extraction (OE)

Reason For Selection: Oil extraction activities at the site no longer occur and the current property owners (Exxon and Chevron) are actively marketing the property. City staff has received inquiries on the property from potential buyers and support of residential development at the site, from the community. Additionally, the site is surrounded by existing residential uses.

Assumed Development Capacity: A density of 33 units per acre is proposed at this site to meet the default density thresholds established under Government Code Section 65583.2(c)(3)(B)). However, this location may have additional development standards imposed by the California Coastal Commission, similar to the adjacent development, where a portion of the site was left as open space. Thus, the total housing production anticipated at the site is 90 units, all of which are conservatively assumed to be above moderate-income.

Commented [SP6]: This area appears to be listed on the GeoTracker as being in need of remedial action. It is not clear that a site assessment has been completed to determine the level of cleanup that will be required. It may not be feasible to clean the site up to residential standards within an appropriate time frame, or ever. Proposing new low income housing on a former waste site could create environmental justice issues. The EIR needs to study these issues and potential constraints.

Site 10 – Old Ranch Country Club (Rezoning/Land Use Change Required; Specific Plan Required)

Location: The entire facility, approximately 155 acres in size, is located north of Lampson Avenue, and south of the Joint Forces Training Base and Old Ranch Town Center, just east of Seal Beach Boulevard. The proposed housing sites are located along the western edge of the property, one near the intersection of Lampson Avenue and Seal Beach Boulevard, and the other further south, across Lampson Avenue from the Ivy Park assisted living facility.

Size: 155 acres

Current Use: Golf course and supporting amenities.

Current Zoning: Recreation Golf (RG)

Reason For Selection: At this time, the landowner has a development application in process with the City for the development of 116 family units and 51 senior units.

Assumed Development Capacity: As this is an active development application, the numbers proposed by the property owner are now the assumed development, for a total of 167 units. All units have been assumed at above moderate-income levels. The existing development application is for a specific plan, which would guide development of the housing as well as a hotel and modifications to the existing clubhouse and golf facilities. An EIR is being prepared for the proposed development. Approval of a specific plan is a discretionary action by the City Council. A new development agreement between the developer and the property owner is expected to be a part of the development application that will ultimately be considered by the City.

Commented [SP7]: This area seems to be prone to persistent historical flooding and other drainage problems, which need to be studied in the EIR. Additional development could exacerbate the problems, and/or widen the impacts to the additional homeowners. The potential high cost of flood insurance may make this area unfit for low or middle income housing.

Site 11 – Naval Weapons Station PCH & Seal Beach Boulevard (Zoning Not Applicable)

Location: Within the Seal Beach Naval Weapons Station, fronting Pacific Coast Highway and Seal Beach Boulevard.

Size: 22 acres

Current Use: Military use; the site is mostly vacant except for a concrete training pad and a 960 square foot prefabricated metal building used as a classroom.

Current Zoning: Military (M)

Reason For Selection: This site was selected in collaboration with the U.S. Navy (Navy), which successfully requested letters of interest to develop this site. The Navy's vision includes uses that would serve military personnel, including the potential for housing. The Navy has already initiated environmental review under the National Environmental Policy Act (NEPA). This site is generally undeveloped and is under singular ownership. The site is located in proximity to goods and services, including an elementary school. A mixed-use development, including housing, is generally anticipated, and assumes 150 residential units in a vertical and/or horizontal mixed-use development. These assumptions were arrived at in cooperation with Navy representatives. Because census data shows lower-income levels at the Seal Beach Naval Weapons Station currently, Table 4, below, assumes one-third of the units at lower-income, one-third at moderate-income, and one-third at above moderate-income. Despite being within the City, this is federal property; therefore, the City has no zoning authority over this area.

Site 12 – Water Storage Site (City Property Navy Base) (Zoning Not Applicable)

Location: Within the Seal Beach Naval Weapons Station, approximately 1,000 feet east of Seal Beach Boulevard, near the housing community off Anchor Way.

Size: 2.75 acres

Current Use: Water and equipment storage

Current Zoning: Military (M)

Reason For Selection: This parcel is owned by the City of Seal Beach. While the water storage facility is in active use and needs to remain in use, the balance of the site has comparably minimal utility. As a part of the Housing Element process, the City looked for opportunities to leverage property it owns. This parcel has capacity for greater utilization. Potential development of the site has been presented to Navy staff. Presently, the Navy is amenable to considering a project that could benefit both the Navy and the City, such as affordable housing for veterans.

Assumed Development Capacity: Depending on the exact size and configuration of the parcel, at least 65 units could be accommodated on a parcel of approximately two acres. Presumed to be an affordable housing development, 50 of the units are assumed to be at lower-income levels and 15 of the units at moderate-income, as shown in Table 4, below.

Site 13 – Main Street Specific Plan Area (Specific Plan Amendment Required)

Location: The Main Street Specific Plan area covers is the traditional downtown commercial core of Old Town, primarily defined by Main Street.

Size: 21 acres

Current Use: Mixed-use, including retail, offices, micro-scale manufacturing, and residential.

Current Zoning: Main Street Specific Plan (MSSP)

Reason For Selection: The area provides for a pedestrian-oriented mix of offices and retail uses with some residential units, which were built prior to adoption of the MSSP. Because Main Street is already developed as a pedestrian friendly area surrounded by residential neighborhoods, existing uses would not be an impediment to the expansion of residential units in this area.

Assumed Development Capacity: Although the area could accommodate a sizable number of residential units if the area is redeveloped, it is recognized that such redevelopment is very unlikely to occur during this planning period. Consolidation of lots under fragmented ownership would be challenging. A two-story height limit has been imposed in this area by voters, further affecting redevelopment opportunities. However, some parcels could accommodate one or more units towards the rear of the lot and/or above an existing single-story retail building. Space exists on some sites to develop units over open parking areas, as well. A physical inventory of the area revealed potential to accommodate 163 units if the City allows a minimum unit size standard **of** approximately 400 square feet. The proposed MSSP amendment would allow for residential uses on second stories or fronting rear alleys, such that Main Street itself remains a retail environment. At these small sizes, these uses would be ancillary, most akin to accessory dwelling units and, therefore, have income-levels have been categorized the same way, with 73 percent at lower-income levels and the balance at moderate-income, as shown in Table 4, below.

Commented [SP8]: The two-story limit, which was approved by a significant majority of voters through Measure Z, has yet to be codified in the City Zoning Code, even though that code modification was specifically stipulated in the language of Measure Z. It would be helpful to point this out in the EIR so that questions regarding this issue can be clarified and closed through zoning code changes.

Commented [SP9]: The EIR should address potential parking shortages and related impacts created if residential units are placed in existing parking areas located "towards the rear of the lot" of existing retail.

The EIR should address, and suggest mitigation for, the potential loss of historic, and aesthetically pleasing architecture and facades of the existing one story commercial buildings. Those building may need to be demolished or significantly altered in order to place a new second story residential unit on top. How will the successful commerce of Main Street, which relies on the historic character and charm of Main street building facades be preserved and not destroyed? We need to enhance and preserve Main Street, not ruin it. We've seen recent new Main Street construction that diminishes, rather than enhances, the unique treasure that is Main Street. That is why this issue needs to be addressed in the EIR and given the higher level of pubic review that an EIR receives.

2.3.4 Housing Opportunity Sites Residential Development Potential

As shown in Table 4, below, redevelopment of underutilized sites and addition of ADUs could result in a total of approximately 205 new housing units, and potential rezone parcels could accommodate a total of approximately 1,628 new housing units. Based on this, by implementing the Project, the City would be able to provide 1,833 additional housing units, thereby accommodating the 2021-2029 RHNA allocation (1,243 new housing units) and a substantive buffer to demonstrate capacity for all income levels. The residential site development potential is shown in Table 4.

Table 4: Housing Opportunity Sites Residential Development Potential

Site No.	Site Name	Potential Density (Dwelling Units per Acre)	Lower-Income Dwelling Units	Moderate-Income Dwelling Units	Above Moderate-Income Dwelling Units	Total Units
Underutilized Sites						
1	1780 Pacific Coast Highway	20	--	5	--	5
2	Leisure World	30	74	38	38	150
3	Accessory Dwelling Units	N/A	36	14	--	50
Total Units from Underutilized Sites		--	*110*	*57*	*38*	*205*
Rezoned Sites (Unless Military)						
4	Accurate Storage	46	6	6	47	59
5	The Shops at Rossmoor	46	115	115	230	460
6	Old Ranch Town Center	46	59	59	121	239
7	Seal Beach Plaza	46	12	12	91	115
8	Seal Beach Center	46	15	15	90	120
9	99 Marina Drive	33	--	--	90	90
10	Old Ranch Country Club	--	--	--	167	167
11	Naval Weapons Station PCH	30	50	50	50	150

Site No.	Site Name	Potential Density (Dwelling Units per Acre)	Lower-Income Dwelling Units	Moderate-Income Dwelling Units	Above Moderate-Income Dwelling Units	Total Units
	& Seal Beach Blvd.					
12	Water Storage Site (City Property Navy Base)	33	50	15	--	65
13	Main Street	N/A	117	46	--	163
Total Units from Proposed Rezoning		--	*424*	*318*	*886*	*1,628*
Total Units including Underutilized Sites, ADUs, and Rezone			**534**	**375**	**924**	**1,833**

Source: City of Seal Beach 2021-2029 Housing Element Update, August 2023.

Notes: The current MU is only associated with LC/RMD. A new mixed-use zoning designation would need to be created to facilitate a density equivalent to RHD-46.

Potential units based on estimated development area.

The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories. In accordance with the "No Net Loss" provisions of SB 166, Housing Opportunity Sites inventory and site identification programs in the Housing Element Update includes sufficient sites to accommodate the City's RHNA allocation.

2.4 SCHEDULE

Future residential development resulting from Project implementation would generally occur during the same time frame of the Housing Element Update, which is from 2021 through 2029.

2.5 DISCRETIONARY ACTIONS

Anticipated permits, approvals, and consultations include, but are not limited to, the actions described in Table 5 below.

Table 5: Agency Permits and Environmental Review Requirements

Agency	Permits and Other Approvals
City of Seal Beach	• Certification of CEQA document • Adoption of Mitigation Monitoring and Reporting Program • Adoption of the Findings of Fact and Statement of Overriding Considerations (if applicable) • Change of Zone / Specific Plan Amendment

Agency	Permits and Other Approvals
	• Seal Beach Municipal Code, Zoning Code Amendment

3.0 ENVIRONMENTAL SETTING, ANALYSIS, AND MITIGATION MEASURES

INTRODUCTION TO ENVIRONMENTAL ANALYSIS

As defined by Section 15063 of the CEQA Guidelines, an Initial Study is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an EIR, Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed Project.

According to Section 15065, an EIR is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

According to Section 15070(a), a Negative Declaration is deemed appropriate if the proposal would not result in any significant effect on the environment.

According to Section 15070(b), a Mitigated Negative Declaration is deemed appropriate if it is determined that though a proposal could result in a significant effect, mitigation measures are available to reduce these significant effects to insignificant levels.

This Initial Study has determined that the proposed applications will result in potentially significant environmental impacts and therefore, an EIR is deemed as the appropriate document to provide necessary environmental evaluations and clearance for the proposed Project.

This Initial Study and Notice of Preparation (NOP) are prepared in conformance with the CEQA of 1970, as amended (Public Resources Code [PRC], Section 21000 et. seq.); Section 15070 of the State Guidelines for Implementation of the CEQA of 1970, as amended (California Code of Regulations, Title 14, Chapter 3, Section 15000, et. seq.); applicable requirements of the County; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

The City is the Lead Agency, in accordance with Section 15050 of the CEQA Guidelines. The Lead Agency is the public agency which has the principal responsibility for approving the necessary environmental clearances and analyses for any project in the City.

Intended Uses of Initial Study and Notice of Preparation

This Initial Study and NOP are informational documents intended to inform decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed changes. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals. The Initial Study and NOP prepared for the Project will be circulated for a period of 30 days for public and agency review and comments, to facilitate preparation of the EIR.

Environmental Assessment Methodology

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

☒ Aesthetics	☒ Greenhouse Gases	☒ Public Services
☐ Agricultural and Forestry Resources	☒ Hazards and Hazardous Materials	☒ Recreation
☒ Air Quality	☒ Hydrology and Water Quality	☒ Transportation
☒ Biological Resources	☒ Land Use and Planning	☒ Tribal Cultural Resources
☒ Cultural Resources	☐ Mineral Resources	☒ Utilities and Service Systems
☒ Energy Resources	☒ Noise	☐ Wildfires
☒ Geology and Soils	☒ Population and Housing	☒ Mandatory Findings of Significance

Determination

Based on this initial evaluation:

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

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

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

☐ I find that the proposed project MAY have a "Potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An

ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be

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Signature

Date

Alexa Smittle, Community Development Director
City of Seal Beach

3.1 AESTHETICS

AESTHETICS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 20199:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public Views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, the potential of the project to conflict with applicable zoning and other regulations governing scenic quality?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Environmental Setting

As described in the City of Seal Beach 2003 General Plan (General Plan), visual resources in the City include the Pacific Ocean coastal waterfront, including beaches, the shoreline, wetlands and marshlands. There are approximately two miles of beachfront shoreline in the City, which is considered to be of regional significance for passive and active recreational activities. As the Project implementation would result in future development and more dense residential uses in the vicinity of the coastal waterfront, potential impacts to aesthetics are evaluated below.

3.1.2 Environmental Impact Analysis

a) Would the project have a substantial adverse effect on a scenic vista?

Finding: Less than Significant Impact

Scenic vistas generally include extensive panoramic views of natural features, unusual terrain, or unique urban or historic features, for which the field of view can be wide and extend into the distance, and focal views that focus on a particular object, scene or feature of interest. The General Plan does not identify or designate specific scenic resources; nor are there any specific policies related preservation of scenic resources. However, several of the Housing Opportunity Sites are in proximity to the Pacific Ocean and open space areas, which can be considered scenic vistas. A substantial adverse effect on a scenic vista would occur where the majority of an existing view would be blocked or substantially interrupted.

Commented [SP10]: Item a) should be characterized as a *potentially significant impact.* Adverse effects on a scenic vista could occur. Views of historic Main street with the Pier and the Pacific Ocean in the background could be altered irreparably and forever by removing/replacing historic facades and materials with modern, inferior, ugly or characterless facades. This would impact the recreational and commercial resources and services that Main Street has historically provided. It could significantly diminish what the community and visitors values most about Main Street. These impacts will also be difficult to successfully avoid and mitigate... just as it would be difficult to successfully recreate or preserve the character value of any historic building undergoing structural enlargment.

Commented [SP11]: Item b should be categorized as *less than significant with mitigation incorporation.* Main Street is part of the scenic highway corridor, providing views of the Pacific Ocean and the historic Pier within the frame of historic sunny Main Street sidewalks, trees, and building facades.

Commented [SP12]: Item d) light or glare... should be characterized as *less than significant impact with mitigation.* It is infeasible to assess this potential impact until the materials, heights, and facades and views of the proposed buildings are known. Therefore, the programmatic EIR needs to be revisited and updated on this topic when a specific project is later proposed, or a separate project EIR needs to be undertaken.

Individual developments that would be developed on the identified Housing Opportunity Sites under the Housing Element Update would be dispersed throughout the City and would be located in areas that are highly urbanized with surrounding existing developments that already limit potential views to scenic resources. Individual developments developed under the Housing Element Update would be required to be designed and constructed in accordance with the development standards of the applicable zoning district, including building heights, setbacks, and appropriate placement of buildings. Adherence to the City's design guidelines and standards would minimize and reduce potential impacts to existing views and scenic resources. Implementation of the Project would not result in substantial adverse effect on a scenic vista and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

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

Finding: No Impact

According to the California State Scenic Highway Project, which is administered by the California Department of Transportation (Caltrans) (Caltrans 2022), there are no state-designated scenic highways located in the City; nor are there any City-designated scenic highways or roadways identified by the City in its General Plan. The closest state-designated scenic highway is State Route (SR) 91, between the city limits of Anaheim and SR 55 to the south, and it is the only state-designated scenic highway within the entire County. The closest Housing Opportunity Site is approximately 14 miles southwest of this portion of SR 91. Implementation of the Project would not occur within the vicinity of state scenic highways and would not substantially damage scenic resources, such as trees, rock outcroppings or historic buildings, within a state scenic highway, and there would be no impact in this regard. As such this topic does not require further evaluation in the EIR.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public Views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, the potential of the project to conflict with applicable zoning and other regulations governing scenic quality?

Finding: Potentially Significant Impact

Implementation of the Housing Element Update would result in the identification of parcels located within the City that have the potential to be developed or redeveloped to accommodate new housing developments and help the City meet its RHNA allocation. Additionally, implementation of the Housing Element Update would result in the creation of a new zoning district that would be applied to five of the identified Housing Opportunity Sites and one site identified as a Housing Opportunity Site would be rezoned to an existing zoning district to accommodate housing. As such, future residential development associated with Project implementation would occur within urbanized areas of the City. Although future Project implementation would not include development on previously undeveloped areas that are not surrounded by urbanization, some of the Housing Opportunity Sites proposed for future residential

Commented [SP13]: Measure Z needs to be codified as required to limit 2-stories in Old Town.

"Old Town" needs to be defined and its location shown on a map.

"adherence to the City's design guidelines and standards... would minimize and reduce potential impacts" This has not recently been the case: witness the recent large commercial development on corner of PCH and Main Street. This is why an EIR and the public transparency and review of the EIR are needed for such developments.

Some of the development sites have potential for significant visual impacts. Therefore, this topic DOES require further analysis in the EIR.

Commented [SP14]: CA HWY 1 is designated as an All-American Road by US DOT.

The Seal Beach portion of CA HWY 1 is *eligible* for designation as a Scenic Highway. It could be designated as such at some future time. The view of historic Main Street, and the Pacific Ocean from CA HWY 1, makes this portion of the CA HWY1 drive beautiful, inviting, nostalgic and unique. The EIR should recognize this resource and assure that it is protected from development impacts.

development could affect areas that are along the City's interface with coastal or open space areas. Additionally, future Project implementation could include the development of new infrastructure which may have the have the potential to alter the existing visual character of the area. Therefore, this potentially significant impact will be further analyzed in the EIR.

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

Finding: Less Than Significant Impact

Typical current sources of light and glare throughout the City include interior and exterior building lighting, illuminated signage, ballfield lighting, lighting from vehicles along existing roadways, and other ambient lighting present in urbanized settings. Sources of glare include glass or metallic surfaces or finishes, on structures and even off of vehicle windshields, that could cause glare effects. Some of the more suburban, lower density, or open space areas of the City have less sources of illumination, lighting and glare. Implementation of the proposed Project would occur in areas designated for redevelopment and would allow for development of currently underutilized parcels in the City. Many of the Housing Opportunity Sites are located within currently illuminated areas.

While the increased residential density associated with Project implementation would likely introduce new sources of light and glare in their immediate surroundings, all new development would be required to comply City guidelines and Municipal Code requirements, including Chapter 11.4.10.020, related to exterior security lighting, exterior fixture compatibility, outdoor illumination levels, minimization of light spillover and glare, and light standard heights (City of Seal Beach 2021).

As future residential development resulting from Project implementation would adhere to the provisions of the Municipal Code and all other applicable regulations related to light and glare, the increased residential density proposed by the Project would not create substantial new sources of light or glare which would adversely affect views in the area. Therefore, this impact would be less than significant, and this topic does not require further evaluation in the EIR.

Commented [SP15]: This cannot be adequately assessed at all of the proposed development sites until more details of the future developments are known. Therefore, the EIR should stipulate that these impacts needs to be thoroughly assessed and avoided or mitigated on a project-specific basis through a publicly reviewed EIR conformance study, or an update or amendment to the programmatic EIR, or through site-specific EIRS, at the time the development project is proposed.

3.2 AGRICULTURAL AND FORESTRY RESOURCES

AGRICULTURAL AND FORESTRY RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Environmental Setting

As outlined in the Open Space/Recreation/Conservation Element of the General Plan, open space land is defined as any parcel of land or water that is essentially unimproved and is devoted to open space use. Land which is used as managed production of resources is protected under the Element. Within the City, certain parcels of land principally within the Seal Beach Naval Weapons Station are being used for agricultural production. Approximately 2,000 acres of the Seal Beach Naval Weapons Station are currently used for the production of staple vegetable crops, such as beets, carrots, and corn (City of Seal Beach 2003). Additionally, according to the Department of Conservation's (DOC's) Farmland Mapping and Monitoring Program (FMMP), prime and unique farmland are identified within the City's boundaries specifically within the Seal Beach Naval Weapons Station. The other portions of the City are mapped as Urban and Built-Up Land or Other (DOC 2023a). FMMP defines Other Lands as Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land (DOC 2023a). According to the California Department of Forestry and Fire Production (CAL FIRE), there are no Timber Production Zones designations or Timber Harvesting Plans within the City (CAL FIRE 2023b).

3.2.2 Environmental Impact Analysis

a) Would the project Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Finding: No Impact

As mentioned above, the Prime and Unique Farmland categories are mapped in areas of the City; however, these mapped areas are limited to the Seal Beach Naval Weapons Station property. Housing Opportunity Sites 11 and 12 are located within the Seal Beach Naval Weapons Station; however, the portions of the Seal Beach Naval Weapons Station property where Sites 11 and 12 are located are mapped as Urban and Built-Up Land and Other Land on the FMMP. No other proposed Housing Opportunity Sites were identified on the FMMP as being located on Prime, Unique, or Farmland of Statewide Importance. Implementation of the Project does not have the potential to cause significant impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, nor does it have the potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, there would be no impact, and this topic does not require further evaluation in the EIR.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Finding: No Impact

According to the City's Zoning Map Index and Orange County's Public Works Land Records Map, none of the proposed Housing Opportunity Sites are under a Williamson Contract and therefore, there would be no impact related to conflicting with a Williamson Act contract. (City of Seal Beach 2013; Orange County 2023).

The City's Zoning Code does not include any agricultural land use designations. However, some of the City's commercial, industrial, and open space zoning designation allow agricultural uses onsite. Agricultral uses allowed in the City are mostly limited to nursery uses, with crop raising allowed under one open space zoning designation. As the City does not have any zoning designations that are specifically for agricultural uses, implementation of the Project would not result in conflicts with existing zoning for agricultural use. Additionally, none of the identified Housing Opportunity Sites that is not proposed for rezoning are under existing zoning designation that allow agricultural uses onsite. The identified Housing Opportunity Sites that are proposed for rezoning would be rezoned to residential zoning districts to allow for additional housing opportunities in the City and would not conflict with any agricultural zoned parcels. Implementation of the Project does not have the potential conflict with any existing zoning for agricultural use. As such, there would be no impact, and this topic does not require further evaluation in the EIR.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

Finding: No Impact

As discussed above, there are no designated Timber Production Zones or agriculturally designated parcels within the Housing Opportunity Sites. Implementation of the Project does not have the potential to conflict with existing zoning for forest land or timberland zoned for Timberland Production. As such, there would be no impact, and this topic does not require further evaluation in the EIR.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

Finding: No Impact

As discussed above, the parcels proposed for rezoning have various designations, and there are no forest lands located on or near the Project area. Therefore, development of the Project would not result in the loss of forest land or conversion of forest land to non-forest uses, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Finding: No Impact

Development of the Project would require rezoning of the Project area to accommodate low- and moderate-income residential uses in areas throughout the City. As discussed above, none of the Housing Opportunity Sites are zoned for agricultural use, and important farmland was not identified amongst the proposed Housing Opportunity Sites. Although the Project involves rezoning to accommodate additional housing needs, the Project would not involve rezoning from agricultural to non-agricultural use or conversion of forest land to non-forest use. As such, there would be no impact, and this topic does not require further evaluation in the EIR.

3.3 AIR QUALITY

AIR QUALITY Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☒	☐	☐	☐

3.3.1 Environmental Setting

The City is within the South Coast Air Basin (SoCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernadino Counties. SoCAB is designated nonattainment for ozone (O_3) and fine inhalable particulate matter ($PM_{2.5}$) under the California and National Ambient Air Quality Standards (AAQS), nonattainment for lead (Los Angeles County only) under the National AAQS, and nonattainment for coarse inhalable particulate matter (PM_{10}) under the California AAQS (City of Corona 2019).

The South Coast Air Quality Management District (SCAQMD) is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with SCAG to attain the National AAQS. In March 2017, SCAQMD adopted the 2016 AQMP which is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between California Air Resources Board (CARB) and the Environmental Protection Agency (EPA). SCAQMD's 2016 AQMP forecasts that the SoCAB will need to increase oxides of nitrogen (NOx) reductions by 45 percent additional reductions above existing regulations for the 2023 ozone standard and 55 percent additional reductions above existing regulations to meet the 2031 ozone standard.

3.3.2 Environmental Impact Analysis

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Finding: Potentially Significant Impact

As result of increased development and densification associated with future Project implementation, emissions would be generated during both construction and operation of individual developments. Project

implementation has the potential to cause significant environmental effects through conflict or obstruction of the applicable air quality plans. Therefore, these impacts will be analyzed further in the EIR.

b) Would the project 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?

Finding: Potentially Significant Impact

The proposed Housing Opportunity Sites are located in a non-attainment area for National AAQS and California AAQS. As such, Project implementation has the potential to cause significant environmental effects through a potential cumulatively considerable net increase of particulate matter during construction. Therefore, this potentially significant impact will be further analyzed in the EIR.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Finding: Potentially Significant Impact

While it is unlikely that sensitive receptors could be exposed to substantial pollutant concentrations, due to construction or operation associated with future Project implementation, there is the potential to cause significant environmental effects if such exposure were to occur. Implementation of the proposed Project would include the development and operation of new and more intense land uses that could generate new sources of toxic air contaminants (TACs) in the City, from both stationary and mobile sources. As such, this potentially significant impact will be further analyzed in the EIR.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Finding: Potentially Significant Impact

Project implementation could cause the generation of new sources of odors or other emissions. Generally, residential land uses do not generate odors that could affect a substantial number of people, because they are not considered a typical odor-producing source, such as a waste treatment facility or an industrial operation. While it is unlikely that substantial numbers of people could be adversely affected by odors due to future construction or implementation of the proposed Project, there is the potential for the Project to result in other emissions. Therefore, these potentially significant impacts will be further analyzed in the EIR.

3.4 BIOLOGICAL RESOURCES

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

3.4.1 Environmental Setting

The western edge of the City includes shoreline, beaches and marinas which support areas of biological diversity. The Seal Beach National Wildlife Refuge (NWR), established in 1972, is a protected wetland and marsh area located at the Seal Beach Naval Weapons Station. It includes habitats that are essential to migratory birds of the Pacific Flyway, including federal- and state-listed endangered species. The Seal Beach NWR is under a Management Plan to 1) preserve habitat necessary for the perpetuation of two endangered species, the light-footed Ridgway's rail and the California least tern, and 2) preservation of habitat used by migratory waterfowl, shorebirds and other waterbirds (USFWS 2023a). Other species of concern found in the Seal Beach NWR include the Eastern Pacific green sea turtle, Belding's savannah sparrow, and other year-round species including ospreys, peregrine falcons, red-tailed hawks, great blue herons, great egrets, snowy egrets, brown pelicans, crabs, and snails. There are a number of winter migration species as well, including Canada, snow and Ross' geese, various duck species, black-necked stilt, American avocet, black-bellied plover, and least and western sandpipers. Additionally, many

California native wildflowers and shrubs occur in this area. Within the aquatic reaches of the wetlands, there can be small rays and sharks along the protected waters of the Seal Beach NWR (USFWS 2023b).

In addition to the Seal Beach NWR, another area with potential sensitivity for biological resources is approximately 100-acres of the Hellman Ranch Specific Plan area, which has been deed-restricted for future sale to a public agency for purposes of wetlands restoration, open space, and environmental education purposes. An adjacent approximately 50-acre oil production property has been similarly restricted (City of Seal Beach 2003). Numerous other parks, golf courses, greenbelts and open space corridors provide potential habitat areas for various plant, insect, bird, reptile and animal species.

Due to its location along the shore of the Pacific Ocean, development and certain land use policies within the Coastal Zone (all areas south of Westminster Boulevard) are also subject to review by the California Coastal Commission (CCC) for consistency with the California Coastal Act of 1976. The City is in the process of developing a Local Coastal Program (LCP) which will implement the Coastal Act at the local level, and reduce the need for direct project review from the Coastal Commission.

3.4.2 Environmental Impact Analysis

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

Finding: Potentially Significant Impact

The Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, does not directly result in development. Certification of the Project itself would not lead to alteration or modification biological resources or habitats, and before any development or redevelopment activities could occur on Housing Opportunity Sites, they would be required to be analyzed for conformance with the requirements of CEQA. While some of the Project's identified Housing Opportunity Sites are located within highly urbanized areas, such as parking lots of existing commercial centers, other Housing Opportunity Sites are located in proximity to or within areas that are not developed or near areas of potential sensitivity for biological resources, such as Housing Opportunity Sites 1, 9, 10, 11 and 12. As such, future implementation of the Project may have a substantial adverse effect, either directly or indirectly, on special-status species. Therefore, these potentially significant impacts will be further analyzed in the EIR.

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

Finding: Potentially Significant Impact

As discussed above, portions of the City are located within the jurisdiction of the CCC. Housing Opportunity Sites 1, 4, 8, 9, 11, 12, and 13 are located within CCC jurisdiction, while Housing Opportunity

Sites 2 and 7 border the CCC jurisdictional boundaries (City of Seal Beach 2023b). Housing Opportunity Site 11 borders the Seal Beach NWR. As such, future implementation of the Project may have a substantial adverse effect on a riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations. Therefore, these potentially significant impacts will be further analyzed in the EIR.

c) Would the project 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?

Finding: **Potentially Significant Impact**

As discussed above, the City has identified areas where wetlands and other sensitive marsh and coastal features are present, including within the Hellman Ranch Specific Plan area, the Seal Beach NWR, and the beaches and shorelines along the western border of the City. Future residential development resulting from Project implementation would be required to minimize effects to wetlands, marshes and coastal areas, in compliance with the CCC and all other applicable requirements; however, several Housing Opportunity Sites may be located within proximity or within such areas and may have a substantial adverse effect on state or federally protected wetlands. Therefore, these potentially significant impacts will be further analyzed in the EIR.

d) Would the project 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?

Finding: **Potentially Significant Impact**

As described above, the City and County have identified areas where native resident or migratory fish or wildlife species regularly occur, including the Seal Beach NWR. Housing Opportunity Sites 11 and 12 are in the vicinity of the Seal Beach NWR, an important stop for migratory species along the Pacific Flyway, and Housing Opportunity Site 10 is located on a golf course which may be used by migratory species. Half of the Housing Opportunity Sites are located within the CCC jurisdiction and/or in proximity to the shoreline and beaches. As future residential development resulting from Project implementation would occur in proximity of areas, potential impacts to migratory species may occur. Therefore, these potentially significant impacts will be further analyzed in the EIR.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Finding: **Less Than Significant Impact**

Future residential development on identified Housing Opportunity Sites resulting from Project implementation may require the removal of trees, including street trees. All resulting development would be required to comply with the City Municipal Code Section 9.40, Trees, which includes limitations and permit requirements related to the removal of trees, particularly eucalyptus trees (City of Seal Beach

2023e). Future residential development resulting from Project implementation would be required to abide by this regulation and ensure the Project does not lead to removal of designated landmark trees. Therefore, future residential development resulting from Project implementation would not conflict with local policies and ordinances protecting biological resources, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Finding: Potentially Significant Impact

This Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, it does not directly result in development. Certification of the Project itself would not lead to alteration or modification biological resources or habitats, and before any development or redevelopment activities could occur on Housing Opportunity Sites, they would be required to be analyzed for conformance with the requirements of CEQA. In addition to being located under CCC jurisdiction, the City is also included in the Orange County Transportation Authority (OCTA) Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) (CDFW 2023). Protected natural communities under the OCTA NCCP/HCP include California walnut woodland, canyon live oak ravine forest, Riversidean alluvial fan scrub, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern mixed riparian forest, southern will scrub and valley needlegrass grassland (CDFW 2013). Further evaluation is required to confirm that there would be no conflicts with these or other plans. Therefore, these potentially significant impacts will be further analyzed in the EIR.

3.5 CULTURAL RESOURCES

CULTURAL and TRIBAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

3.5.1 Environmental Setting

For over 10,000 years, the Seal Beach area, including Anaheim Bay and the San Gabriel estuary, have supported Native American people and their cultures, with evidence of the City's past found in the archaeological record and remaining historical sites; however, few archaeological sites remain in the City, primarily due to development along the coastline. As provided in the City's General Plan Cultural Resources Element, prehistoric occupation of the Seal Beach area was associated with the Gabrielino Native Americans, with the city on the southern end of the extensive tribal territory which extended into Ventura County to the north and San Bernardino County to the east (City of Seal Beach 2003). It is also understood that the Juaneño Native Americans were also present in the Seal Beach area, as the neighboring tribe to the south.

More specifically, the Gabrielino community of Motuuchey was located in today's Old Town area, and archaeological resources were primarily located on the Seal Beach Naval Weapons Station, Hellman Ranch and potentially on a Boeing property. In the 1780s, the historic settlement of the city began with the assignment of a 300,000-acre land grant of Rancho Los Alamitos, which supported agriculture and cattle grazing due to proximity to the Santa Ana River. The Mexican War of 1846 to 1848 marked the end of the Rancho era and Mexican governance, and in 1864, Rancho Los Alamitos was purchased by Jotham Bixby and German immigrants who formed the Anaheim agricultural colony. Anaheim Landing was the port created to facilitate goods movement in and out of the region and was the first port in Orange County.

The area transitioned into the resort community of "Bay City," in 1903, and was connected to Los Angeles with the "Red Cars" of the Pacific Electric Railroad. Today, an historic Red Car can be found on the old Pacific Electric right-of-way. In 1906, the longest pier south of San Francisco was constructed, and it included a bath house, dancing pavilion, roller coaster and more. With a population of 250, Bay City was incorporated in 1915, becoming known as Seal Beach, and the town was a successful resort community by the 1920s. A flurry of growth and development ended with the Great Depression, and in 1939, hurricane winds cut the pier in half. World War II brought a second boom of construction to the City, as military facilities were placed throughout the City and the Seal Beach Naval Weapons Station was built.

The development of Leisure World began in the late 1950s. With a current population of over 24,000, the City remains a tourist destination.

Historic resources in the City include the Old City Hall, which is on the National Register of Historic Places. The early port of Anaheim Landing is recognized for its historical significance by the State of California.

The City's General Plan Cultural Resources Element includes the following goal and policies related to cultural resources (City of Seal Beach 2003):

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 resource 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 proposals for potential impacts to significant archaeological resources pursuant to §15064.5 of the California Environmental Quality Act (CEQA). Require a study conducted by a professional archaeologist for all development proposals located in areas known to be sensitive to cultural resources.

3.5.2 Environmental Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource as identified in Section 15064.5?

Finding: Potentially Significant Impact

This Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing, and therefore, it does not directly result in development. Certification of the Project itself would not lead to demolition or alteration of any historic resources. Furthermore, future development Projects would be required to comply with the City's General Plan Cultural Resources policies related to preservation of resources. As it is unknown if Housing Opportunity Sites may contain historical resources, surveys will be conducted to determine and assess potential impacts to such resources. Therefore, this potentially significant impact will be analyzed in the EIR.

Commented [SP16]: I agree with the finding that this is a potentially significant impact. However, not all the right reasons for that finding are included here. And those omissions may result in an inadequately scoped EIR. The EIR studies need to be broader and consultive of the state's expert preservationists and methodologies.

There are 360 Seal Beach sites currently listed in the BERD (The California State Built Inventory Resource Directory), managed by the California Office of Historic Preservation (OHP). Some of these may be eligible for inclusion in the National Register of Historic Places, or as California Historical Landmarks. More importantly, EIR studies may reveal additional buildings, building remains, artifacts, or other resources in Old Town and other parts of the City that are historically significant. Those should be identified and registered. Each of the sites should be researched and evaluated (site-specifically) by a qualified archaeologist/historian, incorporating pedestrian surveys as well as desktop surveys. We should not limit studies to areas already known to be sensitive to cultural resources. The EIR should study, in a site-specific manner, and identify all potentially historic resources all areas proposed for development.

Commented [SP17]: We need to be adequately thoughtful and broad in our EIR scope. We are not only worried about digging into /destroying buried unknown historical resources; we are also concerned about destroying the historical value of the resources that are in plain site. Main Street's historic, quaint bright storefronts, sunny , tree-lined sidewalks, under open skies and without oppressive urban shadows. That is an invaluable, rare, and treasured resource in Southern California.

The history, development, success, and preservation of Main Street should be studied, and measures should be identified to avoid or mitigate impacts. We should consult with the SHPO and CA office of historic preservation, utilizing its "Main Street" preservation program and guidelines and the Eight Guiding Principles for preserving and restoring 'Main Streets'. https://ohp.parks.ca.gov/?page_id=23484

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Finding: Potentially Significant Impact

As discussed above, approval of the proposed Project itself would not directly affect archaeological resources as the Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, does not directly result in development. However, Project implementation could indirectly affect archaeological resources, as it would allow for future development of the sites. Grading and construction activities of parcels identified for the Project could require earth moving activities that could potentially unearth previously unrecorded resources.

According to the General Plan Cultural Resources Element, there are very few archaeological sites in the City. Archaeological sites are protected by a wide variety of state policies and regulations under the California Public Resources Code, and cultural resources receive protection under both the California Public Resources Code and CEQA. Long term implementation of the Project could allow development including construction activities and grading in areas with undiscovered archaeological resources. Therefore, the Project could result in potential unearthing of previously unknown and unrecorded archaeological resources and result in significant impacts. The Project would be required to implement General Plan Cultural Resources Element policies related to reducing impacts of potential development on cultural resources and would be required to comply with existing laws and regulations pertaining to archaeological and cultural resources. As it is unknown if Housing Opportunity Sites may contain unknown archaeological resources, surveys will be conducted to determine and assess potential impacts to such resources. Therefore, this potentially significant impact will be analyzed in the EIR.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Finding: Less Than Significant Impact

Although unlikely, future Project construction activities could result in unknown human remains being unearthed during earth moving activities. California Health and Safety Code, Section 7050.5; CEQA Section 15064.5; and PRC Section 5097.98, mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. California Health and Safety Code, Section 7050.5, requires that if human remains are discovered on a project site, disturbance of the site shall remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the PRC. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. Although construction activities associated with development of the Project could result in the discovery of human remains, compliance

Commented [SP18]: When development is proposed, the proposed project needs to undergo a review of conformance to the programmatic EIR. When conformance cannot be adequately determined, due to a lack of adequate site-specific data, or because data does not adequately reflect current knowledge, conditions or study protocols, the projects should be required to perform additional studies to infill, update or otherwise create a complete and publicly reviewable characterization of resources and potential impacts.

We should develop the Avoidance, Mitigation, and Monitoring Plan to specifically govern the potential future development projects. The Plan should also specify administrative mechanisms to assure that avoidance, mitigation, and monitoring measures will be implemented and enforced, even if projects are not initiated for many years.

with existing laws would ensure that significant impacts to human remains would not occur. Therefore, compliance with existing laws and regulations would ensure that future residential development resulting from Project implementation does not disturb any human remains, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.6 ENERGY RESOURCES

ENERGY RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☒	☐	☐	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1 Environmental Setting

Southern California Edison (SCE) is the provider of electrical services to most of the City. Total electricity consumption in SCE's service area, which spans much of southern California from Orange and Riverside Counties on the south to Santa Barbara County on the west to Mono County to the north, in gigawatt-hours (GWh) was approximately 81,128 GWh in 2021 (SCE 2019; CEC 2023a). Sources of electricity sold by SCE in 2018 were:

- 36 percent renewable, consisting mostly of solar and wind
- 4 percent large hydroelectric
- 17 percent natural gas
- 6 percent nuclear
- 37 percent unspecified sources (CEC 2019)

Southern California Gas Company (SoCalGas) provides natural gas services to the City and maintains transmission and distribution lines through the City. The service area of SoCalGas spans much of the southern half of California, from Imperial County in the southeast, to San Luis Obispo County in the northwest, to part of Fresno County in the north, and to Riverside County and most of San Bernardino County in the east (SoCalGas 2023). Total natural gas consumption in Orange County in 2018 was 575.1 million therms, with 339 million therms used by residential uses (CEC 2023b).

3.6.2 Environmental Impact Analysis

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Finding: Potentially Significant Impact

Construction and operation of the proposed Project would result in an increased intensity of uses and more residential units. These additional uses would consume more energy which could result in a potentially significant environmental impact. Therefore, this potentially significant impact will be further analyzed in the EIR.

Commented [SP19]: A potential inefficient use of energy would include an inadequate energy supply or delivery capacity available to meet the increased demand caused by additional development. This could result in brownouts, blackouts, and many related safety issues. This potential impact needs to be studied on a Project basis but, more importantly, on a cumulative basis since that energy is a shared resource across many cities in California that are similarly increasing power demand through new residential development projects. The cumulative impacts may be potentially unmitigable within the Project timeframe.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Finding: Less Than Significant Impact

California's electricity grid is transitioning to renewable energy under the California Renewables Portfolio Standards (RPS) Program. In general, the state has RPS requirements of 33 percent renewable energy by 2020, 40 percent by 2024, 50 percent by 2026, 60 percent by 2030, and 100 percent by 2045 (California Public Utilities Commission). The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as SCE and SoCalGas. As SCE and SoCalGas are required to meet the RPS goals for 2030 to provide at least 60 percent clean energy to its customers, future residential development resulting from Project implementation would be consistent with statewide goals.

The Project is intended to be consistent with the implementing General Plan Housing Element Update, and individual development projects constructed as a result of Project implementation would be required to comply with the current and future iterations the Building Energy Efficiency Standards and the California Green Building Standards Code. Additionally, future residential development resulting from Project implementation would be required to implement Housing Element Update policies which support energy conservation opportunities, including Title 24 energy efficiency standards and the statewide goal of transitioning the electricity grid to renewable sources. Furthermore, the Housing Element Update includes the following goal and policies related to energy efficiency that would be applicable to the proposed Project:

Goal 6: Encourage more efficient energy use in residential developments.

- Policy 6a: Promote energy conservation through "green building" techniques that reduce water consumption, improve energy efficiency and lessen a building's overall environmental impact.
- Policy 6b: Promote "smart growth" principles by encouraging compact development in locations that provide opportunities for reduced vehicle trips.

Therefore, with implementation of Housing Element Update policies and compliance with existing standards and regulations related to renewable energy, future residential development resulting from Project implementation would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

Commented [SP20]: The increased cumulative demand for energy is already conflicting with and obstructing earlier state and local plans to close nuclear plants, causing the expansion, rather than the reduction, of fossil fuel energy plants, and causing greater demand, not less, for transportation fossil fuels and imports of foreign oil. Renewables are not providing adequate supply to meet demand. Renewables are more costly and raise the cost of housing in California. The State's energy policies and the housing policies are at odds with each other. Additional development proposed here will only worsen these problems. These potential significant impacts of the Project needs to be studied both from a project and a cumulative perspective and made transparent in the EIR.

Commented [SP21]: The EIR should require open space and tree planting and maintenance as part of each development project, in order to mitigate the increases in atmospheric carbon and provide cooling shade.

3.7 GEOLOGY AND SOILS

GEOLOGY AND SOILS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on strata 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?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☒	☐	☐	☐

3.7.1 Environmental Setting

The City is located in the Los Angeles coastal plain in the Peninsular Ranges of Southern California. These Ranges are made up of hills and ranges with intervening, long, and narrow valleys that trend northwest. The City is in a zone of deformation extending from the foot of the Santa Monica Mountains as far southeasterly as Newport Beach, called the Newport-Inglewood belt. The Newport-Inglewood belt is a surface expression of the Newport-Inglewood Fault zone (City of Seal Beach 2003).

The majority of the City is located within an alluvial plan that extends southward from the convergence of Coyote Creek and San Gabriel River. The two channels drain from the northeast and north, and the combined flow reaches the sea at Alamitos Gap. Elevations within the City vary from approximately sea level to 60 feet above mean sea level (amsl) at Landing Hill (City of Seal Beach 2003).

3.7.2 Environmental Impact Analysis

a) Would the project 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? Refer to Division of Mines and Geology Special Publication 42?

Finding: Less Than Significant Impact

The entire City, including the Housing Opportunity Sites, are located in the seismically active Southern California region. An active fault is defined by the State Mining and Geology Board as one that has had surface displacement within Holocene time (about the last 11,000 years). The currently designated Newport-Inglewood Alquist-Priolo Earthquake Fault Zone traverses through the City. Within this fault zone is the Seal Beach Fault (CGS 2023). All except one of the Housing Opportunity Sites are located to the north and south of this zone and not within it. Housing Opportunity Site 12 is traversed by an earthquake fault and therefore, is located within an earthquake fault zone.

Mandatory compliance with existing regulations, including preparation and submittal of geotechnical studies and reports prior to approval of grading and redevelopment plans, would ensure that potential surface fault rupture impacts would be less than significant. Additionally, the future residential development resulting from Project implementation would be required to comply with the following General Plan policies related to geology and geologic hazards (City of Seal Beach 2003):

- 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 3b: Require geological surveys to be prepared after onsite borings or subsurface explorations at the time subdivisions are submitted to the City for approval.
- 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.

Commented [SP22]: Flooding in some of the proposed project areas is already a significant problem that has *not* been avoided or adequately mitigated by these proposed administrative Policy controls. This shows that the issues of flooding, grading, soil drainage, liquification, runoff and vegetation management do need to be studied and addressed on a site-specific basis in the EIR.

- Policy 3e: Restrict development projects that will cause hazardous geologic conditions or that will expose existing developments to an unacceptable level of risk until the causative factors are mitigated.
- Policy 3f: Require independent review of the geologic and soils reports as appropriate.
- Policy 3g: File and reference copies of pertinent site-specific geologic information and index the information in the City's Geographic Information System.
- Policy 3h: Provide ongoing maintenance and inspection of all public drainage facilities and eliminate or mitigate uncontrolled storm drain flow on hillsides or bluffs.
- Policy 3i: Require the use of drought-resistant vegetation with deep root systems where appropriate for safety reasons in new development projects to reduce the potential for overirrigation. Encourage the use of drought-resistant vegetation throughout the City through public education efforts.
- 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 incorporates the latest accepted standards for seismic design that reflect advances in technology and understanding of hazards.
- Policy 3k: Prohibit the location of new essential facilities such as hospitals, fire and police stations, emergency centers and water tanks in geologically hazardous areas unless it is determined that there is no feasible alternative and the hazard is adequately mitigated.
- Policy 3l: Require that earthquake survival and efficient post-disaster functioning be a primary concern in the siting, design and construction standards for new essential facilities.
- Policy 3m: Evaluate the long-term risks and their associated costs versus the costs of relocation when major improvements to existing essential facilities are proposed and the facilities are located in known hazardous areas. Relocate the facility if the analysis indicates this is more cost effective in the long term.
- 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.
- Policy 3p: Identify the effects of the most probable seismic event (Modified Mercalli intensity value VIII or more) on the infrastructure within the City.
- Policy 3q: Incorporate information on the probable seismic event impacts on infrastructure into the development of capital improvement programs so as to upgrade the survivability of the infrastructure.

- Policy 3r: Work with governmental agencies (i.e., Caltrans and Water Districts) and the public utility companies to identify and promote effective mitigation of the effects of the most probable seismic event on the infrastructure which supports the City of Seal Beach
- Policy 3s: Prepare a Geological Hazards Map based on a study of the geological formations and hazards of the entire City, employing a format compatible with the City's GIS mapping system.
- Policy 3t: Integrate the latest information about earthquake survivability into the City's public safety education program. Encourage the retrofitting of every home within Seal Beach for earthquake survival, especially in the area of adequate anchoring (tie-down) of the homes to their foundations.

As there are no known active faults crossing the majority of the proposed Housing Opportunity Sites and majority of the sites are not located within an Earthquake Fault Zone, ground rupture is unlikely. However, Housing Opportunity Site 12 is located within an Earthquake Fault Zone and, as such, there is some potential for ground rupture to occur. Potential impacts to new developments facilitated by implementation of the Project would be subject to individual CEQA analysis on a project level to analyze potential impacts related to seismic hazards. All future housing developments facilitated by the Project would be required to demonstrate conformance with federal, state, and local seismic design guidelines and requirements. Individual developments would be required to prepare and submit geotechnical studies and reports prior to approval of grading and redevelopment plans and would be required to implement project-specific mitigation measures to reduce any potential impacts. Therefore, compliance with existing regulations and preparation of seismicity reports would ensure that future residential development resulting from Project implementation would have a less than significant impact related to rupture of a known earthquake fault. As such, this impact does not require further evaluation in the EIR.

ii. Strong seismic ground shaking?

Finding: Less Than Significant Impact

As with most of California, there is a significant potential for seismic ground shaking to occur. The Seal Beach Fault is considered capable of causing significant ground shaking in the City, but the recurrence interval is believed longer than for more distant, strike-slip faults. Other large earthquakes have historically occurred in the Los Angeles and Long Beach areas, and many earthquakes of low magnitude occur every year.

An earthquake of moderate- to high-magnitude generated within the Los Angeles or Long Beach area could cause considerable ground shaking at the Housing Opportunity Sites, similar to that which has occurred in the past. To mitigate the effects of strong seismic ground shaking, structures should be designed using sound engineering judgment and the 2022 California Building Code (CBC) requirements, at a minimum.

While there is no way to avoid ground shaking and earthquake hazards, compliance with CBC requirements, including specific provisions for seismic design, would mitigate and minimize the effects of earthquakes on new future construction. The Project would require that future residential development be

designed in accordance with the CBC requirements and statewide regulations to minimize the effects of ground shaking to the greatest degree feasible. Therefore, future residential development resulting from Project implementation would have a less than significant impact related to seismic ground shaking. As such, this impact does not require further evaluation in the EIR.

iii. Seismic-related ground failure, including liquefaction?

Finding: Less Than Significant Impact

Liquefaction generally occurs as a result of strong ground shaking in areas where granular sediment or fill material either contains, or is located immediately above, high moisture content. The ground shaking transforms the material from a solid state to a temporarily liquid state and can result in settlement, flow failure, and lateral spreading. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may sink or suffer major structural damage. These geological and groundwater conditions are prevalent in the City and surrounding areas. Housing Opportunity Sites 2, 3, 5, 6, 7, 9, 10, and 11 are within a liquefaction zone, while Housing Opportunity Sites 1, 4, 8, 12 and 13 do not appear to be within a liquefaction zone (DOC 2023). Although a majority of the Housing Opportunity Sites are within a liquefaction zone, the Project area is developed with existing commercial, residential, and industrial uses, all of which required proper soil compaction and grading prior to construction, consistent with mandatory regulations and requirements. The Project would comply with the General Plan policies mentioned above and would be constructed in accordance with CBC requirements and all applicable regulations pertaining to safety and stability related to seismic activity. Therefore, future residential development resulting from Project implementation would have a less than significant impact from seismic related ground failure. As such, this impact does not require further evaluation in the EIR.

iv. Landslides?

Finding: Less Than Significant Impact

Landslides are the downward and outward movements of slope-forming materials including rock, soil, artificial fill, or combinations of such materials under the direct influence of gravity. The Housing Opportunity Sites are at sea level, and there are no hills or mountains adjacent to them. There are no known landslides near the Housing Opportunity Sites, nor are they located in an identified landslide zone (DOC 2023). Future residential development resulting from Project implementation would involve grading and earthwork; however, mandatory compliance with existing regulations, including the preparation and submission of soil engineering studies, geotechnical evaluations, and seismicity reports for new developments would ensure that potential landslide impacts would remain less than significant. Additionally, the Project would be required to comply with applicable policies and CBC design standards related to seismic and geologic hazards. Therefore, future residential development resulting from Project implementation would not cause substantial adverse effects related to landslides, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Finding: Less Than Significant Impact

During Project implementation and construction, onsite soils can be prone to erosion during construction activities, such as site grading. To reduce the potential for erosion during construction activities, a Storm Water Pollution Prevention Plan (SWPPP), which specifies best management practices (BMPs) for temporary erosion control measures, would be required. Standard erosion control measures would be implemented as part of the SWPPP to minimize the risk of erosion or sedimentation during construction. Additionally, the SWPPP is required to include an erosion control plan that describes measures such as phased grading, limiting areas of disturbance, and diverting runoff from disturbed areas. Construction of future residential development resulting from Project implementation would require the preparation and implementation of a SWPPP and erosion control plans to minimize soil erosion impacts that could result. Therefore, the Project would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

c) Would the project be located on 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?

Finding: Less Than Significant Impact

The General Plan identifies that the City's Grading and Stormwater Pollution Prevention Implementation Manual and Chapter 9.50.020 of the City's Municipal Code require a geotechnical report to be prepared and filed for all projects in which a grading permit is required. Compliance with this requirement would minimize impact resulting from unstable geologic or soil conditions. The recommendations included in the geotechnical reports are required to be included in the grading plans and implemented during future Project implementation and development. Furthermore, compliance with CBC design requirements and additional review and approval of grading plans would minimize impacts resulting from unstable geologic or soil conditions. Compliance with existing regulations, including the preparation and implementation of site-specific soil engineering and geotechnical evaluations, would reduce potential impacts to less than significant levels. Therefore, future residential development resulting from Project implementation would not be located on a geologic unit or soil that is unstable or that would become unstable, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

d) Would the project 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?

Finding: Less Than Significant Impact

Future residential development resulting from Project implementation would be required to prepare and submit a soil engineering report, and geotechnical evaluations as required under Chapter 9.50.020 of the Municipal Code. Recommendations in the geotechnical reports are required to be implemented into grading plans and during construction activities related to future residential development resulting from Project implementations. Additionally, future residential development resulting from Project

implementation would be required to comply with CBC and grading regulations that would minimize the risks associated with development proposed in areas containing expansive soils. With implementation of recommendations included in geotechnical reports and adherence to existing regulations related to development in areas with expansive soils, impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

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

Finding: No Impact

The General Plan identifies the City as completely "built out" and necessary infrastructure such as water, wastewater, and drainage systems are fully constructed to withstand City system demands. Therefore, future residential development resulting from Project implementation would not require the use of septic tanks or alternative waste disposal systems, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

Commented [SP23]: The EIR needs to address the adequacy of the existing wastewater disposal systems to meet the additional capacity required for the Project's developments.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Finding: Potentially Significant Impact

As discussed above, approval of the proposed Project by itself would not directly affect paleontological resources, as the Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and, therefore, does not directly result in development. However, future residential development resulting from Project implementation could indirectly affect paleontological resources, as it would allow for future development of the sites. Grading and construction activities on Housing Opportunity Sites identified for future residential development could require earth moving activities that could potentially unearth previously unrecorded resources and result in significant impacts. Future residential development resulting from Project implementation would be required to implement General Plan Cultural Resources Element policies related to reducing impacts of potential development on cultural resources and would be required to comply with existing laws and regulations pertaining to historical, archaeological and paleontological resources. As it is unknown if Housing Opportunity Sites may contain unknown paleontological resources, surveys will be conducted to determine and assess potential impacts to such resources. Therefore, this potentially significant impact will be analyzed in the EIR.

3.8 GREENHOUSE GASES

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

3.8.1 Environmental Setting

Various gases in the earth's atmosphere, classified as atmospheric Greenhouse Gases (GHGs), play a critical role in determining the earth's surface temperature. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Each GHG differs in its ability to absorb heat in the atmosphere of GHG emissions are presented in carbon dioxide equivalent, which weight each gas by its global warming potential. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. Based on a 100-year time horizon, Methane traps over 25 times more heat per molecule than CO_2, and N_2O absorbs roughly 298 times more heat per molecule than CO_2. Additional GHGs with high GWP include NF_3, SF_6, PFCs, and black carbon.

Emissions from future residential development resulting from Project could be generated by the following sources:

- Transportation: Emissions from vehicle trips beginning and ending in the City boundaries and from external/internal vehicle trips (i.e., trips that either begin or end in the City).
- Energy: Emissions generated from purchased electricity and natural gas consumption used for cooking and heating in the City.
- Solid Waste Disposal: Indirect emissions from waste generated in the City.
- Water/Wastewater: Emissions from electricity used to supply, treat, and distribute water based on the overall water demand and wastewater generation in the City.
- Area Sources: Emissions generated from light commercial equipment, agricultural, and construction equipment use in the City.

Commented [SP24]: Please add emissions from "cooling", "lighting", appliances, etc.

Commented [SP25]: Including also backup generators, portable equipment.

3.8.2 Environmental Impact Analysis

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Finding: Potentially Significant Impact

This Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, does not directly result in development. Certification of the Project itself would not lead to direct greenhouse gas emissions; however, future residential development associated with Project implementation would result in greenhouse gas emissions. As such, greenhouse gas emissions resulting from future Project implementation that may have a significant impact on the environment. Therefore, this potentially significant impact will be further analyzed in the EIR.

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

Finding: Potentially Significant Impact

The Project identifies Housing Opportunity Sites that have the potential for providing additional housing to meet the City's RHNA allocation Development of the Housing Opportunity Sites would require activities that would result in increased greenhouse gas emissions. Therefore, future residential development resulting from Project implementation may conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions and greenhouse gases, and this potentially significant impact will be further analyzed in the EIR.

3.9 HAZARDS AND HAZARDOUS MATERIALS

HAZARDS AND HAZARDOUS MATERIALS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard 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?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Commented [SP26]: Item d) should be characterized as a Potentially Significant Impact. The Marina site (an historic oil transportation site) and other sites where oil production , transportation, and processing took place should be assessed at least at a site-specific Phase I level in the EIR. Other sites with potential hazardous waste should be assessed to identify the responsible party and the timing and cost of potential cleanup to residential standards. *Some of these sites may not be able to remediated to residential levels within the development timeframe specified in the Housing Element, if ever.*

3.9.1 Environmental Setting

Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material that a business or implementing agency has a reasonable basis for believing would be injurious to public health and safety or harmful to the environment if released into the workplace or the environment. Hazardous materials are manufactured, transported, stored, used, and disposed of on a regular basis. Although hazardous materials incidents can happen anywhere, certain areas are at higher risk.

Within the state, the California Environmental Protection Agency (Cal EPA) regulates the use and handling of hazardous materials and hazardous wastes. The California Department of Toxic Substances Control (DTSC) is a division of Cal EPA and works in conjunction with the United States Environmental Protection Agency (USEPA) to enforce and implement hazardous materials laws and regulations. The primary transportation routes of hazardous materials in Orange County near the City are the I-405 and I-

605 freeways. Some transportation of hazardous materials occurs on Pacific Coast highway and Seal Beach Boulevard within the City (City of Seal Beach 2003). Additionally, there are several hazardous materials cleanup sites within the City that are listed on several databases, including the State Water Resources Control Board Geotracker website (SWRCB 2023).

The City's General Plan Safety Element includes the following goals and policies related to hazards and hazardous materials (City of Seal Beach 2003):

- Policy 2A: Coordinate with federal, state, and county hazardous waste management plans to protect the health and welfare of the public, the environment, and the economy of the City of Seal Beach through comprehensive programs that ensure safe and responsible management of hazardous waste and materials.
- Policy 2B: Implement the measures outline in the City's Household Hazardous Waste Plan, Orange County's Hazardous Waste Management Plan, and Hazardous Materials Area Plan, and the County's Operational Area Marine Oil Spill Contingency Plan to ensure the effective management, transportation, and disposal of hazardous waste on a City-wide level.
- Policy 2C: Support enforcement of state "right to know" laws, which outline the public's right to information about local toxic producers.
- Policy 2F: Facilitate coordinated effective response to hazardous materials emergencies in the City to minimize health and environmental risks.
- Policy 2G: Promote public awareness in hazardous materials emergency response preparedness by any effective informational media, such as Emergency Preparedness Newsletter, neighborhood posters, and at least annual presentations at neighborhood association meetings.
- Policy 2H: Support the combination of the OCFA's hazardous materials disclosure program. Ensure annual inspections of businesses that generate or use hazardous materials, and identify and monitor any historical hazardous materials sites within the City for public health and safety issues.
- Policy 2I: Promote public participation and education in the implementation of the programs identified in the County's Hazardous Materials Management Program.
- Policy 2J: Encourage OCFA to monitor the flow of hazardous materials through the City to ensure public safety.
- Policy 2K: Encourage coordination between the OCFA and the Seal Beach Police Department in the designation of routes and enforcement of hazardous materials, routing ordinances, and laws with the I-405 freeway as the primary designated route.

3.9.2 Environmental Impact Analysis

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Finding: Less Than Significant Impact

Construction activities associated with future residential development resulting from Project implementation is anticipated to involve demolition, grading, and construction of new structures and buildings. Hazardous materials, such as paints, sealants, solvents, diesel fuels, and other typical hazardous materials for construction would be used. With the use of these materials, there is potential for spills to create hazardous conditions. Future residential development resulting from Project implementation would be required to comply with all applicable regulations, Orange County Hazardous Waste Management Plan, and General Plan policies that would minimize risks associated with the use of hazardous materials during construction activities, and they would be required to adhere to all emergency response plan requirements set forth by the Orange County Fire Authority (OCFA) throughout Project implementation.

The Project is proposing rezoning and establishment of additional residential and housing zones for Housing Opportunity Sites throughout the City. Upon completion of construction hazardous materials associated with Project operations would include materials used during typical household cleaning and maintenance activities. Although these potentially hazardous materials would vary, they would generally include household cleaning products, paints, fertilizers, and herbicides and pesticides. Many of these materials are considered household hazardous waste, common wastes, and/or universal wastes by the USEPA, which considers these types of wastes to be common to businesses and households and to pose a lower risk to people and the environment than other hazardous wastes when properly handled, transported, used, and disposed of (USEPA 2020). Federal, state, and local regulations typically allow these types of wastes to be handled and disposed of with less stringent standards than other hazardous wastes, and many of these wastes do not have to be managed as hazardous waste.

Therefore, by complying with existing laws, regulations, and General Plan policies, future residential development resulting from Project implementation would not create a significant hazard through routine transport, use, or disposal of hazardous materials, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

b) Would the project 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?

Finding: Less Than Significant Impact

During construction activities, the transport, use, storage, and disposal of hazardous materials could result in accidental releases into the environment. However, compliance with applicable laws and regulations would minimize the potential for hazardous materials releases that could pose harm to the public or environment.

Future Project implementation would establish additional residential housing opportunities throughout the City. As mentioned above, common materials associated with residential uses include small quantity hazardous material, such as cleaners and pesticides. Future residential development resulting from Project implementation would not pose a substantial hazard to the public or environment through accidental releases. Therefore, by complying with existing laws, regulations, and General Plan policies, future residential development resulting from Project implementation would not create a significant hazard through reasonably foreseeable upset and accident conditions, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Finding: **Less Than Significant Impact**

The proposed Housing Opportunity Sites are distributed throughout the City. Housing Opportunity Sites 8 and 11 are located within one-quarter mile of McGaugh Elementary School, which is currently surrounded by existing residential development, Seal Beach Boulevard and the Seal Beach Naval Weapons Station. As stated under Impact a), construction activities required for future residential development resulting from Project implementation would be required to comply with all applicable regulations, Orange County Hazardous Waste Management Plan, and General Plan policies that would minimize risks associated with the use of hazardous materials during construction activities. The same regulations that would protect onsite construction workers from potential risks related to the use of hazardous materials would also protect any nearby sensitive receptors, including schools. Future residential development resulting from Project implementation would be required to comply with existing laws and regulations regarding hazardous materials, waste, and emissions to minimize the potential for hazardous emissions to occur. Adherence to federal, state, and local regulations and requirements would reduce potential impacts associated with the accidental release of hazardous materials. Therefore, future residential development resulting from Project implementation 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, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

d) Would the project 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?

Finding: **Less Than Significant Impact**

The Hazardous Waste and Substances Sites List (Cortese List) is a planning document providing information about the location of hazardous materials release sites. California Government Code Section 65962.5 requires Cal EPA to develop, at least annually, an updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous materials release information for the

Commented [SP27]: See comment below, regarding the GeoTracker hazardous waste site list and the inclusion of the Marina site on it. The EIR should look at each of the proposed sites more closely from a waste site/risk perspective. It may not be feasible to locate residences on contaminated sites, or do so in a timely fashion. The Marina site may not be suitable for residential development.

Cortese List. Several hazardous material sites are identified within the City; however, none of the Housing Opportunity Sites are identified on the Cortese List.

Commented [SP28]: Please refer to the Geotracker for a more complete and up-to-date listing of hazardous waste sites and their current status in and around the proposed project site areas. The Marina site seems to require assessment and remedial action. Other sites may also require assessment and remediation or be very close to areas requiring remedial action.

Individual development that occurs on the proposed Housing Opportunity Sites that may be located on or next to a hazardous materials site would be required to complete an environmental site assessment (ESA) by a qualified professional to ensure that the future development projects would not disturb hazardous materials sites and that any proposed development would not create a substantial hazard to the public or the environment. Future residential development resulting from Project implementation would be required to prepare and submit a Phase I ESA, as appropriate. If Phase I identifies a recognized environmental condition, it would recommend preparation of a Phase II ESA, which would consist of sampling and testing of soil, soil vapor, and groundwater for hazardous materials and human health risks assessments based on concentrations of the hazardous materials identified. Future residential development resulting from Project implementation would be required to implement the recommendations included in the ESAs to remediate hazardous materials before the City would issue building permits. If a new development that is developed under the Project is located on a property contaminated by hazardous substances, compliance with laws and regulations for investigations and remediation regulated at the local, state, and federal level would be required. Additionally, future residential development resulting from Project implementation would be required to implement General Plan policies that would minimize risks from hazardous materials sites. As future residential development resulting from Project implementation would require adherence to General Plan policies, compliance with applicable laws and regulations regarding hazardous materials sites, and preparation of environmental site assessments, impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

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 or private 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?

Finding: Potentially Significant Impact

The closest public airport to the Housing Opportunity Sites is Long Beach Airport, located approximately 5.2 miles to the northwest of the City. The City is not located within the Long Beach Airport's Airport Influence Area and therefore, Long Beach Airport operations would not result in a safety hazard or excessive noise for people residing or working on the identified Housing Opportunity Sites (Los Angeles County 2004). The Los Alamitos Joint Forces Training Base is not a public airport; however, it is located approximately 600 feet to the east of Housing Opportunity Sites 5, 6, and 10.). As identified in the Airport Environs Land Use Plan (AELUP) for Joint Forces Training Base Los Alamitos, the City is located within the airport's notification area and the identified Housing Opportunity Sites are dispersed throughout the airport's different height restriction zones and impact zones. Therefore, there is potential for development of the Housing Opportunity Sites to result in safety hazards. As discussed in Section 3.13, Noise, below, none of the Housing Opportunity Sites are located within the 65 decibel (dB) noise contour areas for the Los Alamitos Joint Forces Training Base, under both existing and future scenarios, as identified by the General Plan Noise Element (City of Seal Beach 2003). However, some sites are located adjacent to the noise contour areas and would require noise control measures to minimize potential impacts. Therefore, due to the proximity of the Housing Opportunity Sites to the Los Alamitos Joint Forces Training Base,

implementation of the Project could result in a safety or noise hazard for people residing or working in the area and result in a potentially significant impact. This potentially significant impact will be further analyzed in the EIR.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Finding: Less Than Significant Impact

The City has prepared an Emergency Operations Plan (EOP) and a Local Hazard Mitigation Plan (LHMP) to ensure protection of City residents in times of emergency and to identify local hazards and provide measures to address these hazards (City of Seal Beach 2017). All future residential development resulting from Project implementation would be required to comply with applicable fire and building codes and would be required to be reviewed by the OCFA's Community Risk Reduction Division prior to approval. Additionally, Project implementation would be required to comply with policies identified in the General Plan to ensure effective emergency response. Compliance with General Plan policies, applicable fire and building codes, and the City's EOP and LHMP would ensure that Project implementation would not substantially impair an adopted emergency response plan or evacuation plan, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Finding: Less Than Significant Impact

The Housing Opportunity Sites are located on different parcels located throughout the City and are not located in hillside areas or areas with urban-wildland interfaces. Project implementation would not occur within a State Responsibility Area (SRA) or Very High Fire Hazard Severity Zone (VHFHSZ). Future residential developments resulting from Project implementation would be required to adhere to a wide range of state and local codes pertaining to fire protection and would be required to abide by the City's EOP and LHMP. Adherence to the measures in these plans would minimize impacts to the extent possible and would ensure that new developments would not expose people or structures to significant risks associated with wildland fires. Additionally, future residential development resulting from Project implementation would be required to implement General Plan policies identified to minimize risk from wildfire hazards. Therefore, with implementation of applicable state and local codes, future residential development resulting from Project implementation would not expose people or structures to significant wildland fire risks, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.10 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater 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;	☒	☐	☐	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☒	☐	☐	☐
iv. Impede or redirect flood flows.	☒	☐	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☒	☐	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☒	☐	☐	☐

3.10.1 Environmental Setting

The City is located within the Santa Ana River Watershed, which is the most extensive watershed in Orange County, running through a three-county area from its headwaters in the San Bernadino Mountains to its outlet in the Pacific Ocean (Orange County 2013). The Santa Ana River Watershed encompasses approximately 2,700 square miles.

The City is located near multiple hydrologic features which include rivers, the Pacific ocean and wetlands. Within the City limits is the mouth of the San Gabriel River, draining an area of approximately 700 square miles within Los Angeles and Orange Counties, the Pacific Ocean, and various wetland areas that are subject to various sources of pollution within the community. The San Gabriel River is located along the western boundary of the City. The San Gabriel River originates in Los Angeles County but empties into the ocean at Seal Beach. Additionally, the river provides an outlet for flood control basins and channels

within the City. The river is a major source of ocean contamination after storm events due to the washing of upstream pollutants and trash into the ocean (City of Seal Beach 2003).

The City's General Plan Safety Element includes the following goals and policies related to hydrology and water quality (City of Seal Beach 2003):

- Policy 2N: Facilitate the proper separation of sewer and storm drain systems through construction upgrades and operation and maintenance of sewer and storm drain infrastructure to eliminate the flow of sewage into the City storm drains.
- Policy 2O: Facilitate coordination and participation by all of the jurisdictions that make up the Los Angeles and Santa Ana RWQCBs to improve water quality. Encourage the elimination of sewer discharges and non-point source pollution into the San Gabriel River.
- Policy 2S: Minimize changes in hydrology and pollutant loading, require incorporation of control, including structural and non-structural BMPs to mitigate the projected increase 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 allows more percolation of storm water into the ground.
- 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.
- Policy 2W: Establish development guidelines for areas particularly susceptible to erosion and sediment loss.

3.10.2 Environmental Impact Analysis

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Finding: Less Than Significant Impact

Construction activities related to Project implementation could impact water quality due to erosion and other pollutants entering construction site runoff, resulting in polluted runoff entering the City's stormwater system. Construction activities such as grading could accelerate the rate of erosion and cause substantial impacts to water quality. The City's General Plan Open Space, Recreation, and Conservation Element encourages reducing urban pollutant runoff through implementation of National Pollutant Discharge Elimination System (NPDES) programs (City of Seal Beach 2003). Additionally, Chapter 9.30 Storm Water Management Program of the City's Municipal Code includes requirements for stormwater drainage systems, polluted runoff, control of water quality management, and enforcement and permit requirements.

Any projects that include one acre or greater of soil disturbance would be required to comply with the Construction General Permit and associated NPDES regulations to ensure that potential for soil erosion is minimized. Future development associated with Project implementation would be required to comply with all relevant NPDES requirements and would be required to prepare a SWPPP. The SWPPP would be required to include construction BMPs that address pollutant source reduction and provide measures of controls necessary to mitigate potential pollutant sources. The Project would also be required to implement General Plan policies that would ensure that new development minimizes potential water quality impacts. Therefore, with the implementation of General Plan policies, adherence to NPDES and Construction General Permit requirements, such as the preparation of a SWPPP, and adherence to all relevant state and local regulations, construction activities associated future residential development resulting from Project implementation would not violate water quality standards or waste discharge requirements, and impacts would be less than significant.

Operation of future residential development resulting from Project implementation could potentially create new sources of polluted runoff and increase post-construction pollutants. However, as identified in the Housing Element Update, all of the identified Housing Opportunity Sites are already developed with existing uses; therefore, development of the Housing Opportunity Site with residential uses would not result in a substantial increase in polluted runoff and impervious surfaces. To prevent long-term impacts related to Project operation, new residential development related to Project implementation would be required to comply with City's Municipal Code Chapter 9.20, Storm Water Management Program. Municipal Code Section 9.20.015, Controls for Water Quality Management, outlines water quality management requirements for all new development and significant redevelopment projects, including requiring compliance with the Orange County Drainage Area Management Plan (DAMP). Additionally, future residential development resulting from Project implementation would be required to comply with development requirements and standards for storm drainage and stormwater runoff identified under City Municipal Code Section 11.4.10.020(H), including prevention of runoff, connection to the public drainage system, incorporation of design requirements and integration of BMPs, as required by the City's NPDES permit requirements. Additionally, future residential development resulting from Project implementation would be required to incorporate General Plan policies which ensure that new development minimizes potential water quality impacts. With the adherence to federal, state, and local regulations and requirements and relevant General Plan policies, runoff associated with both construction and operation of future residential development resulting from Project implementation would not violate any water quality standards or discharge requirements, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Finding: Potentially Significant Impact

The Project is proposing implementation of the City's new Housing Element Update and Zoning Code Update which would result in the provision of Housing Opportunity Sites throughout the City that have the potential to accommodate new housing developments to help the City meet its RHNA allocation. As

Commented [SP29]: The EIR should establish the City's *current* water supply and demand and compare that to the *post-project* (increased) supply and demand. The EIR should then establish those same pre-and post data sets for all of the reasonably anticipated future projects which rely on the same water supply sources. That cumulative project list would include all of the reasonably anticipated development projects in other cities being proposed to comply with the same state housing mandates. This cumulative supply/demand analysis will establish whether there will be enough water to supply our City's post-project population without having to create new water supply sources, such as highly costly desalination plants. Essentially, if every City that depends on MWDOC and OCWD sources expands their demand over the next 10 years, demand may likely exceed supply and lead to rationing or desalination. These cumulative impacts need to be studied now and made completely transparent in the EIR.

identified in the Housing Element Update, all of the identified Housing Opportunity Sites are already developed; therefore, they do not provide substantial areas for groundwater recharge. As identified in the City's 2020 Urban Water Management Plan (UWMP), the City provides water to its residents and other customers using the imported potable water supply obtained from its regional wholesaler, Municipal Water District of Orange County (MWDOC) and local groundwater from the Orange County Groundwater Basin, which is managed by the Orange County Water District (OCWD). According to the 2020 UWMP, the City relied on 65 percent groundwater and 35 percent imported water during its Fiscal Year 2019-2020 and by 2045, it is projected that the water supply portfolio would change to approximately 85 percent groundwater and 15 percent imported water (City of Seal Beach 2021). Future residential developments resulting from implementation of the Project would result in an increased demand of potable water in the City through increased development and resulting in indirect population growth; therefore, an increased demand to groundwater supplies would result. Therefore, implementation of the Project could result in decreased groundwater supplies resulting from increased demand, and this potentially significant impact will be further analyzed in the EIR.

c) Would the project 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;

Finding: Less Than Significant Impact

Implementation of the Project would result in changes to land uses which may result in an increase of impervious surfaces. However, the Housing Opportunity Sites identified for rezoning under the Project are already developed with existing uses and located in areas surrounded by existing developments. Future residential developments resulting from implementation of the Project would utilize the existing drainage facilities in the existing surrounding areas. Additionally, Project implementation would require construction activities that could result in increased potential for erosion and siltation to occur. As identified above, under Impact a), the Project would be required to comply with City Municipal Code Chapter 9.20 Storm Water Management Program. City Municipal Code Section 9.20.015 Controls for Water Quality Management outlines water quality management requirements for all new development and significant redevelopment projects, including requiring compliance with the Orange County DAMP. Additionally, the future residential development resulting from Project implementation would be required to comply with development requirements and standards for storm drainage and stormwater runoff identified under City Municipal Code Section 11.4.10.020(H), including prevention of runoff, connection to the public drainage system, incorporation of design requirements and integration of BMPs as required by the City's NPDES permit requirements.

Future development projects would be required to prepare and implement a SWPPP, including standard erosion control measures and BMPs to minimize the risk of polluted runoff resulting from increased erosion and sedimentation. The SWPPP would include an erosion control plan that identifies measures, such as diverting runoff from disturbed areas and treatment measures to trap sediment, to ensure there is no polluted runoff. Additionally, future residential development resulting from Project implementation

would be required to incorporate General Plan policies which ensure that new development minimizes potential water quality impacts resulting from erosion and siltation. With the adherence to federal, state, and local regulations and requirements and relevant General Plan policies, runoff associated with both construction and operation of future residential development resulting from implementation of the Project would not result in increased erosion or siltation on or offsite, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

ii. **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;**

Finding: Potentially Significant Impact

Future residential development resulting from Project implementation could result in an increase of impervious surfaces within the City; however, implementation of the Project would not result in substantial increases in impervious surfaces as the Housing Opportunity Sites identified for rezoning are already developed with existing uses and located in highly urbanized areas with substantial impervious surfaces. Though the Project may not result in substantial increased in impervious surfaces resulting in increased rate and amount of surface runoff, there are existing storm drainage capacity issues within portions of the City. Therefore, Project implementation and development of some of the identified Housing Opportunity Sites may result in flooding impacts related to stormwater runoff. As such, this potentially significant impact will be further analyzed in the EIR.

iii. **Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or**

Finding: Potentially Significant Impact

As identified above under Impact c.i, the Project would be required to comply with City Municipal Code Chapter 9.20, Storm Water Management Program. City Municipal Code Section 9.20.015, Controls for Water Quality Management, outlines water quality management requirements for all new development and significant redevelopment projects, including requiring compliance with the DAMP. Additionally, the Project would be required to comply with development requirements and standards for storm drainage and stormwater runoff identified under City Municipal Code Section 11.4.10.020(H), including prevention of runoff, connection to the public drainage system, incorporation of design requirements, and integration of BMPs as required by the City's NPDES permit requirements. Compliance with these requirements would ensure both construction and operation of future residential development resulting from Project implementation would not result in increased polluted runoff.

However, as identified above under Impact c.ii, there are existing storm drainage capacity issues within portions of the City. Therefore, Project implementation and development of some of the identified Housing Opportunity Sites may result in creation or contribution of runoff water that would exceed the capacity of the storm drainage system. As such, this potentially significant impact will be further analyzed in the EIR.

Commented [SP30]: Thank you for including the study of storm water volume and capacity impacts in EIR Study. Please also consider impacts to the capacity of current storm water pumping systems, and the potential need to upgrade or augment those systems. Please include an analysis of future impacts to any other stormwater infrastructure and drainage, taking into account sea level rise, and rising groundwater table in tidal influenced areas. Please also consider the potential impacts on storm water quality from the Project, including additional pet waste, trash, irrigation runoff, dissolved contaminants, suspended solids, and floatables. Mitigation could include requiring development areas and areas impacted by development (such as parks, etc) to be equipped with managed pet waste and trash disposal facilities.

iv. Impede or redirect flood flows.

Finding: Potentially Significant Impact

As identified in the City's General Plan Safety Element, portions of the City are subject to flooding due to wave run-up which is typically caused by large swells produced by storms ay sea occurring at high tide (City of Seal Beach 2003). Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRM) to identify potential flood areas across the United States. A majority of the Housing Opportunity Sites identified for the Project are located within areas identified as Zone X, or an area with minimal flood hazard and is identified as an area with reduced flood risk due to levees (FEMA 2023). However, as identified by FEMA, Housing Opportunity Sites 11 and 12 are located within Zone D, an area with possible but undetermined flood hazards. Additionally, Housing Opportunity Site 10 and a portion of Housing Opportunity Site 6 are located within areas identified by FEMA as Zone AE (EL 14), or a special flood hazard area with a flood elevation of 14 feet. As some of the Housing Opportunity Sites are located within flood risk areas, future residential developments resulting from implementation of the Project may be located in areas susceptible to flooding and implementation of the Project could impede or redirect flood flows. Therefore, this potentially significant impact will be further analyzed in the EIR.

Commented [SP31]: Please also analyze the requirements for flood insurance in the project areas and consider whether areas with high flood insurance costs can realistically and justly serve middle or lower income residents.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Finding: Potentially Significant Impact

As identified above under Impact 3.iv, a majority of the Housing Opportunity Sites identified for the Project are located within areas identified as Zone X, or an area with minimal flood hazard and is identified as an area with reduced flood risk due to levees (FEMA 2023). However, Housing Opportunity Sites 11 and 12 are located within Zone D, an area with possible but undetermined flood hazards and Housing Opportunity Site 10 and a portion of Housing Opportunity Site 6 are located within areas identified by FEMA as Zone AE (EL 14), or a special flood hazard area with a flood elevation of 14 feet. Due to the City's proximity to the Pacific Ocean, the City is at risk of tsunamis. The City's General Plan Safety Element identified that the risk of inundation by a tsunami appears to be low; however, if an earthquake occurred along the Newport-Inglewood fault, a tsunami of high inundation level could be expected (City of Seal Beach 2003a). As such, implementation of the Project could result in risk of release of pollutants due to project inundation resulting from flooding, tsunamis, and seiches and therefore, this potentially significant impact will be further analyzed in the EIR.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Finding: Potentially Significant Impact

Measures identified above to ensure that developments have a less than significant impact on surface and groundwater quality would also ensure that future development does not obstruct or conflict with implementation of a water quality control plan. However, as identified above under Impact b), the Project may result in potentially significant impacts related to groundwater supplies such that the Project may

impede sustainable groundwater management of the basin. Therefore, future residential development resulting from Project implementation could conflict with or obstruct implementation of a sustainable groundwater management plan, and this potentially significant impact will be further analyzed in the EIR.

Commented [SP32]: Cumulative impacts must be assessed from all reasonably anticipated projects served by the same water supply resources. This includes all reasonably anticipated projects in other cities.

3.11 LAND USE AND PLANNING

LAND USE AND PLANNING Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☒	☐
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?	☒	☐	☐	☐

3.11.1 Environmental Setting

The proposed Project is located in the City of Seal Beach, California, located at the northwestern edge of Orange County, California. It borders the City of Long Beach (Los Angeles County) to the north, the Orange County Cities of Huntington Beach and Westminster to the east, Huntington Beach to the south, and the Pacific Ocean to the west. The Project is interspersed throughout the City, which has a land area of approximately 13 square miles. The Project proposes to rezone six Housing Opportunity Sites, proposes a new Specific Plan for one site, and proposed a Specific Plan Amendment for another site, in order to allow increased residential densification which would result from implementation of the Housing Element Update. Additionally, the Project identified three underutilized sites and two military sites as Housing Opportunity Sites that could be redeveloped with residential uses to help the City meet its RHNA allocation.

3.11.2 Environmental Impact Analysis

a) Would the project physically divide an established community?

Finding: Less Than Significant Impact

The Project identified Housing Opportunity Sites within the City to allow for densified residential development, including low- and moderate-income housing units to help the City meet its RHNA allocation. Future residential development resulting from Project implementation would occur within areas that are already developed and would not occur within any existing residential communities that could be divided. The identified Housing Opportunity Sites are dispersed throughout the City rather than concentrated in a single area of the City and therefore, development of these sites would not result in division of established communities. Therefore, this impact would be less than significant, and this topic does not require further evaluation in the EIR.

b) Would the project cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Finding: **Potentially Significant Impact**

The Project is proposing to redevelop, or rezone identified Housing Opportunity Sites in various locations throughout the City. The Housing Element Update identifies 13 Housing Opportunity Sites throughout the City that have the potential for providing additional housing. The sites are broken into two categories: underutilized sites that do not require zoning code changes and sites where zoning modification are proposed. Of the 13 Housing Opportunity Sites, six require rezoning, two on the Seal Beach Naval Weapons Station require a change of use, one is proposed for a Specific Plan, and one would require an amendment to the Main Street Specific Plan. Housing Opportunity Site 10 is going through its own rezoning and specific plan process with the current property owner. The rezoning effort would also include the establishment of a new zoning designation, MC/RHD, which would apply to five of the Housing Opportunity Sites (Sites 4, 5, 6, 7, and 8). The new MC/RHD mixed-use zoning designation is needed in order to facilitate a density equivalent to RHD-46 (up to 46 units per acre) but with a minimum density of 40 units per acre. Future residential development resulting from Project implementation may cause a significant environmental impact due to a conflict with applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigation an environmental effect. Therefore, this impact will be further analyzed in the EIR.

3.12 MINERAL RESOURCES

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

3.12.1 Environmental Setting

Mineral resources in the City include an oil extraction at Esther Island within the tidelands, oil extraction along the Newport-Inglewood Fault on the Hellman Ranch property, and an oil lease site in the Seal Beach NWR (City of Seal Beach 2003). The California Surface Mining and Reclamation Act of 1975 sets forth requirement for the state to classify all land into Mineral Resource Zones (MRZs) that indicate the potential for mineral resources regardless of existing land use or ownership. However, there are no known or identified mineral resources identified within the Housing Opportunity Sites (DOC 2023b).

3.12.2 Environmental Impact Analysis

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

a-b) Finding: No Impact

The General Plan does not indicate that any Housing Opportunity Sites are located within an area of locally important mineral resources (City of Seal Beach 2003). Housing Opportunity Site 9 is zoned OE; however, it is a vacant lot with no oil extraction or production activities present. The Project area does not encompass the City's identified resource areas: Hellman Ranch, Esther Island, and the Seal Beach NWR. The proposed Housing Opportunity Sites are residential, commercial, and other underutilized areas. Housing Opportunity Site 4 is the nearest site to one of the identified resources, Hellman Ranch, and is located approximately 0.3-mile to the northeast. Additionally, the Housing Opportunity Sites are not currently used for mineral extraction and do not contain any known or designated mineral resources. Future residential development resulting from Project implementation would not result in the loss of availability of any known mineral resources, nor would it have potential impacts associated with the loss availability of a locally mineral resource recovery site. As such, there would be no impact, and this impact does not require further evaluation in the EIR.

3.13 NOISE

NOISE Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels.	☒	☐	☐	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☒	☐	☐	☐

3.13.1 Environmental Setting

The City has set noise and vibration performance standards for noise sources in the City, which are adopted by reference from Orange County Code Section 4-6.1. City Municipal Code Chapter 7.15, Noise, defines the qualitative standards used in determining a potential violation and provides performance standards for interior and exterior noise by zone, based on land use (City of Seal Beach 2023e). Table 6 shows the acceptable interior and exterior noise limits by zone. Exterior noise limits in the table are based on the noise contours and compatibility guidelines provided in the General Plan Noise Element (City of Seal Beach 2003).

Table 6: City Interior and Exterior Noise Standards

Noise Zone	Interior (dBA Ldn)*	Exterior (dBA Ldn)	Time Period
Noise Zone 1 – Residential Properties	55	55	7:00 am to 10:00 pm
Noise Zone 1 – Residential Properties	50	50	10:00 pm to 7:00 am
Noise Zone 2 – Commercial Properties		65	At any time
Noise Zone 3 – Industrial, Manufacturing and Oil Properties		70	At any time

Source: City of Seal Beach Municipal Code, 2023.
Notes: dB (decibels) at the A-weighted scale over a 24-hour, time-weighted annual average noise level.

The City's Municipal Code indicates that noise associated with construction, repair, remodeling or grading of real property are exempt from the noise standards if performed between 7:00 am and 8:00 pm on weekdays and 8:00 am and 8:00 pm on Saturday (City of Seal Beach 2023e).

According to the General Plan Noise Element, the predominant noise source in the City is caused by automobiles and some overflights from military aircrafts. Noise sensitive receptors in the City include, but are not limited to, residences, schools, hospitals, elder care facilities, or any other land use areas deemed as sensitive by the City. As part of the General Plan Noise Element, in 2002, 10 sites were selected for measurement of the existing noise environment, which proved to be highly variable, depending on the location (City of Seal Beach 2003). The time-averaged sound level in the City was in the range of approximately 59.8 to 70.3 dBA Leq.

Commented [SP33]: Significant noise sources are motorcycles and automobiles exceeding lawful noise standards through modifications, and through insufficient noise enforcement from the City. These noise impacts are already known to harm humans (hearing loss, sleep loss, etc) and animals and birds (nesting, breeding and feeding habits) in our environment. Additional residents and traffic will add to car and motorcycle noise. This needs to be studied in the EIR and mitigated *with accountability*. Mitigation should be monitored and adjusted if needed to achieve noise mitigation goals.

3.13.2 Environmental Impact Analysis

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Finding: Potentially Significant Impact

Construction and operation resulting from future residential development resulting from Project implementation could result in the generation of temporary and permanent increases in ambient noise levels in the vicinity of future development projects. Future residential development resulting from Project implementation may result in a substantial increase in ambient noise in excess of City standards. Therefore, this potentially significant impact will be further analyzed in the EIR.

Commented [SP34]: Please include transportation noise and HVAC noise. HVAC noise may be especially important to assess and mitigate in multi-use residential development.

b) Would the project exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Finding: Potentially Significant Impact

Construction activities associated with development of the identified Housing Opportunity Sites would generate varying degrees of groundborne vibration and noise levels, depending on construction procedures and equipment. Construction and operation of the future residential development resulting from Project implementation may result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Therefore, this potentially significant impact will be further analyzed in the EIR.

c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Finding: Potentially Significant Impact

Commented [SP35]: The EIR should ensure that potential noise sources at the Los Alamitos Training Base are assessed using the types of aircraft and equipment that will be used there, as well as the flying protocols that will be used there. Commercial aircraft have far more restrictive noise controls, implemented through aircraft and engine design and through administrative controls - such as curfews and highly restrictive flight paths. Those noise controls are typically not required for the military.

The closest public use airport to the City boundaries is Long Beach Airport, which is located approximately 5.2 miles to the northwest, and its airport land use plan boundaries are approximately three miles from the City boundaries. The Los Alamitos Joint Forces Training Base conducts flights over the City and noise sensitive land uses throughout the week. The Los Alamitos Joint Forces Training Base is

not a public airport; however, it is located approximately 600 feet to the east of Housing Opportunity Sites 5, 6, and 10. The General Plan Noise Element provides noise contours prepared by the California National Guard, and several noise sensitive areas north of I-405 were experiencing aircraft-generated noise levels greater than 65 dB at the community noise equivalent level (CNEL). General Plan Noise Element Figure N-5 depicts the existing noise contours of the Los Alamitos Joint Forces Training Base, and Figure N-6 depicts the future noise contours. None of the Housing Opportunity Sites are located within the 65 dB CNEL noise contour, both in the existing and future scenarios, as identified by the General Plan Noise Element (City of Seal Beach 2003). However, some sites are located adjacent to the noise contour areas and would require noise control measures to minimize potential impacts. Therefore, due to the proximity of the Housing Opportunity Sites to the Los Alamitos Joint Forces Training Base, implementation of the Project could result in excessive noise levels for people residing or working in the area and result in a potentially significant impact. This potentially significant impact will be further analyzed in the EIR.

3.14 POPULATION AND HOUSING

POPULATION AND HOUSING Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☒	☐	☐	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

3.14.1 Environmental Setting

Seal Beach was incorporated in 1915 primarily as a farming community and beachside tourist destination. The population of the City remained relatively stable from 1915 to 1944 with little more than 1,000 residents. However, in 1944 the U.S. Navy acquired half of the city to construct the Seal Beach Naval Weapons Station bringing new residents to the City. The population increased to more than 7,000 people by 1954. In 1962, the Leisure World retirement community was established in the City with an estimated 9,000 senior residents. Other housing development during this time took place in the neighborhoods known as College Park East, College Park West, and Marina Hill; and the Surfside community was annexed into the City. However, these development booms were followed by very limited growth in the 1970's and afterward. During the 20-year period from 2000 to 2020, the City had an annual growth rate of 0.2 percent compared to 0.7 percent for the region as a whole. According to the City's Housing Element Update, the City had an estimated population of 24,992 residents in 2020 and as of January 1, 2021, the City population was estimated to be approximately 24,443 residents (City of Seal Beach 2022). Additionally, as of January 1, 2023, the Department of Finance (DOF) population estimates identifies the City's population to be approximately 24,647 residents (DOF 2023).

The housing stock in the City consists of a mix of single-family and multi-family units with one mobile home park. The City's Housing Element Update identified that the most commonly occurring household size in the City is one person (45.1 percent) and the second-most occurring household is of two people (35.4 percent) (City of Seal Beach 2022). As of January 1, 2023, the City is estimated to have 14,675 total housing units with a vacancy rate of 9.3 percent (DOF 2023).

3.14.2 Environmental Impact Analysis

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

Finding: **Potentially Significant Impact**

The City is proposing a rezoning program to accommodate the planning of low- and moderate-income households. The City's 2021 – 2029 Housing Element Update was adopted by City Council on February 7, 2022. Pursuant to the state's RHNA allocation, the City is required to plan for 1,243 new housing units, with 258 units allocated for very low-income households, 201 units allocated for low-income households, 239 units allocated for moderate-income households, and 545 units allocated for above moderate-income households. The City's RHNA allocation was 1,243 new housing units, and the Housing Element Update requires the City to demonstrate that it can accommodate the RHNA allocation, as well as an additional buffer and, therefore, the City proposes a rezoning program to accommodate the planning of low- and moderate-income households, as required by the state's RHNA allocation for the City.

Certification of the proposed Project itself would not result in direct unplanned population growth as the Project is proposing the rezoning and identification Housing Opportunity Sites within the City to allow for more residential development potential and not the actual development of these sites. However, certification of the Project would lead to more parcels in the City being available for residential developments and could result in indirect impacts to population growth.

According to the DOF, as of January 2023, the City is estimated to have a persons per household rate of 1.83 persons per household (DOF 2023). The identified Housing Opportunity Sites could accommodate a total of 1,833 housing units at maximum buildout of each individual site. If all Housing Opportunity Sites are developed to the maximum allowable density with residential uses to provide an additional 1,833 housing units, it would result in a population growth of approximately 3,354 residents. According to the DOF's population estimates, the City had an estimated population of 24,647 as of January 2023 (DOF 2023). Therefore, the 3,354 residents that would be generated by maximum buildout of the Project would result in a 12 percent increase in population over current conditions.

The SCAG identifies growth forecast projections for each county and city under jurisdiction of the SCAG. The SCAG's 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy adopted on September 3, 2020, included a demographics and growth forecast technical report that identifies the projected growth for each county and city under the jurisdiction of the SCAG. The SCAG's growth forecast identifies the anticipated population for Seal Beach by the year 2045 to be 25,400 residents (SCAG 2020). As the City's current population is identified at 24,647 residents and implementation of the Project would result in an increase of 3,354 residents, the projected increase in residents resulting from implementation of the Project would be greater than the projected growth for the City.

Project implementation would be in compliance with General Plan and Housing Element Update policies to provide for balanced housing types and affordability levels and provide access to affordable housing to lower-income households. Additionally, the Project would ensure that the City is in compliance with the

state's RHNA allocation for the City. However, as the Project would result in an increase in the number of residents above the projected future residential population for the City, future residential development resulting from Project implementation could result in potentially significant impacts related to population growth. Therefore, this topic will be further evaluation in the EIR.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Finding: Less Than Significant Impact

The Housing Opportunity Sites that are proposed for rezoning and the identified underutilized sites include a variety of uses, including commercial, retail, industrial, storage, residential, and military. The Project sets the framework for future growth and development in the City by providing additional opportunities for development of housing and therefore, does not directly result in development. Certification of the Project itself would not lead to construction of new residential developments in the City but would result in changes to the existing zoning designations and proposed use of the site. Project implementation would not require relocation of existing developments, as it would not directly lead to development of the identified Housing Opportunity Sites. However, if the Housing Opportunity Sites are identified for new development or redevelopment on an individual basis, displacement of existing people or housing could occur. Individual development and redevelopment of the sites may result in displacement of existing people or housing if the identified Housing Opportunity Sites are currently developed with existing residential uses.

However, the Housing Opportunity Sites would likely be developed or redeveloped with a higher density residential development and provide for more residential units, as compared to existing conditions. Therefore, any existing housing that would be demolished as a result of future residential development resulting from Project implementation could be replaced at a higher ratio of residential units. Therefore, future residential development resulting from Project implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.15 PUBLIC SERVICES

PUBLIC SERVICES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	☒	☐	☐	☐
ii) Police protection?	☒	☐	☐	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☒	☐	☐	☐
v) Other Public Facilities?	☐	☐	☒	☐

Commented [SP36]: This should be characterized as *"Less Than Significant with Mitigation Incorporation"*. Other public facilities should include: public bathrooms/restrooms, public drinking water fountains, bike paths, parking, surfing areas, fishing areas, walkways.

3.15.1 Environmental Setting

Fire Protection

OCFA provides fire protection and emergency medical services in the City. OCFA also serves 23 cities within the County and all unincorporated areas. The OCFA protects over 1,984,758 residents from its 77 fire stations located throughout the County. OCFA Reserve Firefighters work 10 stations throughout Orange County (OCFA 2023). The OCFA 2022 Statistical Annual Report identified that the department employed a total of 1,556 staff for various positions throughout the OCFA. In 2022, OCFA responded to 175,457 incidents. The Housing Opportunity Sites are located within the fire response zones for OCFA Fire Stations 63 and 64.

Police Protection

Police services for the Project would be provided by the Seal Beach Police Department (SBPD). SBPD is responsible for updating the Emergency Services Plan, incorporating a model citizen response model, evacuation plans, emergency aid, comprehensive communications components, and a coordination program with other local government agencies, schools, hospitals, and utility companies (City of Seal Beach 2003).

Schools

The City is part of the Los Alamitos Unified School District (Los Al USD) which includes K-12 education. Within Los Al USD, there are nine school campuses serving more than 9,500 students in its jurisdiction. There is only one Los Al USD school within the City, McGaugh Elementary School.

Parks

The City offers built and natural trails, developed parks, beaches, and golf courses as some of the recreational opportunities in the City. The public park system in the City includes mini, neighborhood, community, and major/regional parks that are differentiated by scale, population served, and amenities. The City's Park standard is based on guidance provided by California Government Code Section 666477, referred to as the Quimby Act, and the City has a park standard of three acres per 1,000 residents. In addition to various parks, the shoreline of Seal Beach is considered to be of regional significance.

Other Public Facilities – Libraries

The Orange County Library operates 33 libraries within the County. There are two libraries within the City, including Orange County Library Seal Beach Branch, located approximately 0.15 mile south of the Housing Opportunity Site 8, and Leisure World Library, located in proximity to Housing Opportunity Site 2.

The City's General Plan Safety Element includes the following goals and policies related to public services (City of Seal Beach 2003):

- Policy 1C: Continue to maintain the Emergency Operations Center (EOC) and provide for its adequate support and staffing, including the acquisition and maintenance of a mobile Incident Command Support vehicle for emergency response.
- Policy 1L: Evaluate the location of all public facilities necessary for emergency response in relation to the City's current Hazard Maps and the level of risk associated with their locations, and move facilities located in high or extreme hazard areas to areas less subject to hazards, if feasible.
- Policy 1M: Ensure that any new public facilities are designed and located in such a manner as to eliminate potential hazard impacts that may reduce the utility of the facility following a disaster.
- Policy 4A: Ensure that adequate facilities and fire service personnel are maintained based on population, fire hazards in and around the City and a performance standard of an average total reflect time of seven minutes or less.

3.15.2 Environmental Impact Analysis

a) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

   i. **Fire Protection?**

Finding: Potentially Significant Impact

The Project sets the framework for future growth and development in the City by providing additional opportunities for development of housing and therefore, does not directly result in development. Certification of the Project itself would not lead to construction of new residential developments in the City. However, implementation of the Project would result in facilitation of up to 1,833 new housing units being developments in the City and would result in population growth that would incrementally increase in demand for fire protection and emergency services. The increase in demand for fire protection and emergency services could result in impacts to fire services and facilities, including response times or the need for new or physically altered fire protection facilities. Therefore, this impact is potentially significant and will be further analyzed in the EIR.

Commented [SP37]: The EIR should analyze potential impacts to response times and evacuation times, due to increased demand and increased traffic-related travel constraints. It should also analyze any resulting potential impacts to public health and safety. Cumulative analysis also needs to be considered for all reasonably anticipated project utilizing the same fire protection and emergency services or utilizing the same traffic-constrained travel access. The EIR also needs to identify avoidance and mitigation measures for those impacts.

ii. Police Protection?

Finding: Potentially Significant Impact

The Project sets the framework for future growth and development in the City by providing additional opportunities for development of housing and therefore, does not directly result in development. Certification of the Project itself would not lead to construction of new residential developments in the City. However, implementation of the Project would result in facilitation of up to 1,833 new housing units being developments in the City and would result in population growth that would incrementally increase in demand for police services. The increase in demand for police services could result in impacts to police services and facilities, including response times or the need for new or physically altered police protection facilities. Therefore, this impact is potentially significant and will be further analyzed in the EIR.

Commented [SP38]: Please analyze impacts to response times and evacuation times and the resulting potential impacts to pubic safety, and mitigation.

iii. Schools?

Finding: Less Than Significant Impact

Project implementation would identify various Housing Opportunity Sites throughout the City to provide additional residential housing opportunities for low- and moderate-income households. As stated in the Housing Element Update:

> *State law limits fees charged for development permit processing to the reasonable cost of providing the service for which the fee is charged. Various fees and assessments are charged by the City and other public agencies to cover the costs of processing permit applications and providing services and facilities such as schools, parks and infrastructure. Almost all of these fees are assessed through a pro rata share system, based on the magnitude of the project's impact or on the extent of the benefit that will be derived. Development fees will vary from project-to-project depending on the specific characteristics. Table IV-8 summarizes the development fees for typical residential projects.*

Currently, a majority of the City's K-12 student population needs to travel outside the City to attend school, and Los Alamitos USD is anticipated to have adequate capacity to serve potential new students generated from Project implementation. Los Alamitos USD schools generally have small class sizes and low student to teacher ratios (Los Alamitos Unified School District 2023). Pursuant to Government Code Section 65996, payment of school fees is deemed to provide full and complete school facilities mitigation. Future residential development resulting from Project implementation would also be required to comply

with policies in the General Plan pertaining to ensuring adequate school services. Therefore, with the payment of required fees and incorporation of General Plan policies, the Project would not result in the need for new or physically altered school facilities, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

iv. Parks?

Finding: Potentially Significant Impact

Certification of the Project itself would not lead to construction of new residential developments in the City. Future housing developments facilitated by the Project would be subject to individual environmental review and would occur incrementally as market conditions allow and at the discretion of the individual property owner. None of the Housing Opportunity Sites are currently zoned for park facilities nor are they developed with existing park facilities. Future housing development facilitated by the Project and the resulting population growth would result in an incremental increase in demand for parks throughout the City. Though the increase in demand for park facilities would not be concentrated in one part of the City as the Housing Opportunity Sites are dispersed throughout the City, the City does not have the land capacity to increase parkland and therefore could result in the City not meeting its parkland standard of three acres per 1,000 residents. As such, this impact is potentially significant and will be further analyzed in the EIR.

v. Other Public Facilities – Libraries?

Finding: Less Than Significant Impact

Project implementation would create additional residential housing opportunities within the City to provide housing units to help the City meet its RHNA allocation. These additional units are not anticipated to result in an increase in demand on public facilities. The Leisure World Library located in proximity to Housing Opportunity Site 2 is outside of the proposed rezone portion of this site; therefore, no libraries would be removed as a result of future Project implementation. Additionally, future residential development resulting from Project implementation would be required to comply with General Plan policies that would ensure adequate library services are provided. Therefore, Project implementation would not result in the need for new or physically altered public facilities, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

Commented [SP39]: Mitigation should be required for developers to prevent the current level of recreation from being significantly diminished. Mitigation could be aimed at avoiding degradation of existing recreation resources, creating additional shareable recreation resources (such as parks, parklets, trails, bike lanes, shared bike/car lanes), improving existing recreation resources, and improving access to existing recreation, such as through bike paths and walkways. Connecting existing and new public open space and recreational areas should be a goal of mitigation. The potential for the Project's increasing population density to impact the availability and safety of surfing resources should also be studied.

Commented [SP40]: The finding should be *"Potentially Significant"* or *"Less than Significant with Mitigation Applied"*, in part because "other public facilities" should not be limited to "libraries". "Other public facilities" should include restrooms, public water fountains, walkways, bikeways and bike paths, surfing areas, fishing areas, where potentially significant impacts seem likely.

3.16 RECREATION

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

3.16.1 Environmental Setting

Open space or outdoor recreation is defined by the City as land that is set aside for neighborhood, community or regional parks, beaches, special use parks or facilities, greenbelts, and open space corridors (City of Seal Beach 2003). Sunset Marina Park and the shoreline of Seal Beach are some of the recreational areas located within the City that provide various types of recreational activities for the City's residents and adjacent cities residents can utilize. The City offers approximately 77.3 acres of parks and open space for various recreational activities (Seal Beach 2003).

3.16.2 Environmental Impact Analysis

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

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

a-b) Finding: Potentially Significant Impact

Certification of the Project itself would not lead to construction of new residential developments in the City. None of the Housing Opportunity Sites are currently zoned for park facilities nor are they developed with existing park facilities and therefore, individual developments proposed on the Housing Opportunity Sites would not result in conversion of parks or recreational facilities to residential uses. Future housing development facilitated by the Project and the resulting population growth would result in an incremental increase in demand for parks throughout the City. Though the increase in demand for park facilities would not be concentrated in one part of the City as the Housing Opportunity Sites are dispersed throughout the City, the City does not have the land capacity to increase parkland and therefore could result in the City not meeting its parkland standard of three acres per 1,000 residents. The Project could increase the use of existing parks and recreational cities such that substantial physical deterioration would occur or be

accelerated and may require the construction or expansion of existing facilities. As such, this impact is potentially significant and will be further analyzed in the EIR.

3.17 TRANSPORTATION

TRANSPORTATION Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with a program plan, ordinance, or policy addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☒	☐	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection(s) or incompatible uses (e.g. farm equipment))?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.17.1 Environmental Setting

SB 743 caused revisions to the CEQA Guidelines which established new criteria for determining the significance of transportation impacts, so that level of service or other similar measures of vehicular capacity or traffic congestion would not be the sole basis for determining significant impacts under CEQA. The revised CEQA Guidelines utilize the vehicle miles traveled (VMT) metric to evaluate the significance of transportation related impacts for development projects, land use plans, and transportation infrastructure projects. The Governor's Office of Planning and Research (OPR) has provided a Technical Advisory (December 2018) that recommends specific VMT significance thresholds that may constitute a significant transportation impact and lead agencies have the discretion to set or apply their own thresholds of significance. OPR recommends use of a per-capita measurement of VMT for CEQA analysis based on average VMT per resident for evaluation of residential development. The City has similarly adopted thresholds of significance consistent with the OPR recommendation. Certain types of development, such as development within a one-half-mile of an existing major transit stop can generally be presumed to have a less than significant impact.

Regional and local access roads in the City include SR 1 (Pacific Coast Highway), SR 22 (Garden Grove Freeway), I-405 (San Diego Freeway), Seal Beach Boulevard, Westminster Boulevard, Main Street, and Marina Drive. OCTA provides public transportation services on Bus Routes 1, 42 and 60. Senior transportation programs are provided by California Yellow Cab, and Senior Non-Emergency Transportation is also provided to provide access for routine medical care (City of Seal Beach 2023f). There are also multiple pedestrian and bicycle paths in the City, and the General Plan Circulation Element includes goals, objectives and policies related to improved bicycle and pedestrian routes (City of Seal Beach 2003a), as follows:

Goal: Provide a citywide system of safe, efficient, and attractive bicycle and pedestrian routes for commuter, school and recreational use.

- Objective: Promote the safety of bicyclists and pedestrians by adhering to citywide standards and practices.

- Policies:

  Develop citywide standards for construction and maintenance of bikeways and pedestrian walkways.

  Develop and adopt a planned bikeway system that is consistent with the County of Orange Master Plan of County-wide Bikeways, and other adopted Master Plans, to assure that local bicycle routes will be compatible with routes or neighboring jurisdictions.

  Maintain existing pedestrian facilities and require new development to provide pedestrian walkways between developments, schools, and public facilities.

  Where appropriate, require proposed developments adjacent to proposed bikeway routes to include bicycle paths or lanes in their street improvement plans and to construct the bicycle paths or lanes as a condition of approval.

  Construct safe, convenient paths for bicycles and pedestrians so as to encourage these alternative forms of transportation.

  Require plans for bicycle and pedestrian facilities to give priority to providing continuity and closing gaps in the bikeway and sidewalk network.

  Develop programs that encourage the safe utilization of easements and/or rights-of-way along flood control channels, public utilities, railroads, and streets wherever possible for the use of bicycles and/or pedestrians.

  Develop a comprehensive pedestrian circulation plan that facilitates pedestrian traffic in major activity areas.

  Ensure accessibility of pedestrian facilities to the elderly and disabled.

  Require the installation of sidewalks with all new roadway construction and significant reconstruction of existing roadways.

  Develop a plan and pursue funding for bicycle support facilities and cycling education/information programs.

3.17.2 Environmental Impact Analysis

a) Would the project conflict with a program plan, ordinance, or policy addressing the circulation systems, including transit, roadway, bicycle and pedestrian facilities?

Finding: Potentially Significant Impact

Implementation of the Project would result in an increase in demand for public transit, bicycle, and pedestrian systems, which would require the improvement and expansion of the circulation system, in addition to what was evaluated in the Housing Element Update. As such, an evaluation of the policies addressing potential impacts to these facilities is required, and this potentially significant impact will be further analyzed in the EIR.

b) Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Finding: Potentially Significant Impact

The proposed Project would change the City's zoning code to allow for increased and densified residential development at the identified Housing Opportunity Sites throughout the city. Traffic generated by future Project implementation, in additional to regional growth, could contribute to already congested traffic conditions in and around the City. In accordance with the City's VMT guidelines, the Orange County Transportation Analysis Model (OCTAM), or another similar model as approved by the City Engineer, would be used to evaluate the Project's potential impact on VMT. As such, an evaluation of Project consistency with the applicable VMT thresholds is required, and this potentially significant impact will be further analyzed in the EIR.

c) Would the project substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Finding: Less Than Significant Impact

As with the General Plan, Project implementation would result in the alteration and intensification of existing land uses in the city. Therefore, future residential development resulting from Project implementation would require individual evaluations of the roadway alignments, intersection geometrics, and traffic control features. Roadway improvements would be made in accordance with applicable roadway design guidelines, as well as the Caltrans Roadway Design Manual, in addition to the General Plan Circulation Element policies pertaining to roadway design and improving the safety of all users of the transportation system. Therefore, with adherence to all applicable guidelines, policies and requirements related to roadway design, Project implementation would not substantially increase hazards due to a geometric design feature or incompatible use, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

Commented [SP41]: Seal Beach is already anomalously 'under par' by not providing protected painted bike lanes along its section of PCH, even while the cities to the north and to the south of us have long since done so. The Project will significantly increase traffic and turns (a specific danger to cyclists since automobile right hand turns bisect bike lanes and frequently hit cyclists) through this already crowded section of PCH. This impact should be studied further and mitigation should be considered, including adding those missing bike lanes on PCH and creating additional dedicated bike lanes and/or share lanes on other streets throughout the City to maintain and improve bike-ability, safety, and bike access connectedness. Other mitigation could include cycling education for cyclists and drivers, signage, lane painting, and enforcement of distracted driving.

d) Would the project result in inadequate emergency access?

Finding: Less Than Significant Impact

As stated above, Project implementation would result in the alteration and intensification of existing land uses in the City which could result in inadequate emergency access if the new developments proposed under the Project are not designed to City standards and requirements. As such, future residential development resulting from Project implementation would be subject to review and approval by the City's Public Works Department to evaluate roadway alignments, intersection geometrics, and traffic control features, which would be made in accordance with all applicable local and state requirements related to emergency access and the safety of all users of the transportation system. Therefore, with adherence to all applicable guidelines, policies and requirements related to roadway design and emergency access requirements, Project implementation would not result in inadequate emergency access, and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

Commented [SP42]: I disagree with this finding. There have been recent development projects (including PCH and 2nd) that have significantly impacted travel times along critical emergency access routes. Those impacts have been historically underestimated and/or not made transparent during project review and approval processes. Impacts have been poorly mitigated and monitored; basically unaccounted for. We cannot rely solely on the same failing administrative policies and procedures to remedy the increasingly dangerous travel time delays and driving safety that we are all witnessing in our community. The risk for a critical and significant impact to emergency access and driving safety needs to be studied and made completely transparent to the public and subject to public review in the EIR. In addition, the identification and mitigation of cumulative traffic delays should be a critical part of the EIR.

3.18 TRIBAL CULTURAL RESOURCES

TRIBAL CULTURAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. 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	☒	☐	☐	☐
ii. 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 of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☒	☐	☐	☐

3.18.1 Environmental Setting

According to the City's General Plan, prehistoric occupation of the Seal Beach area was associated with the Gabrielino- Native Americans, who inhabited much of northern Orange County. The Gabrielinos were known for high population densities, complex social organization, and highly developed maritime economies. The Gabrielinos were in an area that extended from Ventura County to the north and San Bernadino County to the east. The tribes maintained a common language, material culture, and ceremonial and political systems. The Gabrielino community of Motuuchey was located in Seal Beach. In addition to the Gabrielino, it is understood that the Juaneno Native Americans, the neighboring tribe to the south, also frequented the Seal Beach area (City of Seal Beach 2003).

3.18.2 Environmental Impact Analysis

a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii. 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 of

Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

i-ii) Finding: Potentially Significant Impact

The County, as the CEQA Lead Agency, will consult with appropriate tribes with the potential for interest in the region. Based on this consultation, it will be identified if the proposed Housing Opportunity Sites are located in an area having the potential for tribal cultural resources. SB 18 states: "*Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe.*"

In accordance with Assembly Bill (AB) 52 and SB 18, the City provided notice to the appropriate Native American Tribes on November 15, 2023, inviting them to participate and consult with the City through its AB 52 and SB 18 Native American outreach efforts. The results of the outreach and consultation effort will be described in the EIR. Therefore, this potentially significant impact will be evaluated further in the EIR.

3.19 UTILITIES AND SERVICE SYSTEMS

UTILITIES AND SERVICE SYSTEMS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐
b) Have sufficient water supply 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?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Environmental Setting

The City's current population is served by existing utility and service systems, as described below.

Water

The City a retail water supplier that provides water for its residents and their customers using the imported water supply obtained from its regional wholesaler, MWDOC and local groundwater from the Orange County Groundwater Basin, which is managed by the OCWD.

The City's Water Division operates three active groundwater wells, an active service connection with MWDOC, emergency interconnections with other utilities, two reservoirs with a total storage capacity of seven million gallons (MG), two booster stations, four disinfection sites, approximately 680 hydrants and manages 74.8-mile water mains system with about 5,346 service connections. Water use within the City's service area has been relatively stable in the past decade with an annual average of 3,482 acre-feet (AF) for potable use. In Fiscal Year 2019-20, the City's water use was 3,273 AF of potable water (groundwater and imported). In Fiscal Year 2019-20, the City relied on 65 percent groundwater and 35 percent imported water. There is currently no recycled water available for use within the City's service area (City of Seal Beach 2021).

Wastewater

The City does not own or operate wastewater treatment facilities but owns and operates the wastewater collection system in its service area that sends all wastewater to Orange County Sanitation District (OC San) for treatment and disposal. The sewer system service area encompasses about 1,705 acres and includes approximately 34 miles of sewer main, serving about 5,000 customers.

The wastewater collected in the City's system is conveyed to OC San's extensive system of gravity flow sewers, pump stations, and pressurized sewers. Ultimately, the wastewater is treated at OC San treatment plants in Fountain Valley (Plant No. 1) and Huntington Beach (Plant No. 2). Plant No. 1 has a total rated primary capacity of 108 million gallons per day (MGD) and a secondary treatment capacity of 80 MGD. Plant No. 2 has a rated primary capacity of 168 MGD and secondary treatment capacity of 90 MGD. Both plants share a common ocean outfall, but Plant No. 1 currently provides all its secondary treated wastewater to OCWD's Groundwater Replenishment System (GWRS) for beneficial reuse. The 120-inch diameter ocean outfall extends 4 miles off the coast of Huntington Beach. A 78-inch diameter emergency outfall also extends 1.3 miles off the coast. In 2020, 2,520 AF of wastewater was collection from the City (City of Seal Beach 2021).

Stormwater Drainage

The City has two drainage systems – the sewer and the storm drains. Sewers carry waste to a sewage treatment plant where the water is cleaned and then reused or deposited into the ocean away from beaches. The storm drain system was designed to solely prevent flooding of City streets by carrying excess rainwater out to the ocean. Much of the City's runoff drains into the Navel Weapons Base with the remainder split between the Pacific Ocean, Coyote Creek, and the San Gabriel River (City of Seal Beach 2023d).

Solid Waste

The City contracts with Republic Services to provide trash, recycling, and green waste collection for all City residents and commercial businesses (City of Seal Beach 2023c).

Other Utilities

Southern California Gas Company is the gas provider and Southern California Edison is the electricity provider for the City.

3.19.2 Environmental Impact Analysis

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Finding: Potentially Significant Impact

The Project sets the framework for future growth and development in the City by providing additional opportunities for development of low- and moderate-income housing and therefore, does not directly result in development. Future housing developments facilitated by the Project would be subject to individual environmental review and would occur incrementally as market conditions allow and at the discretion of the individual property owner. Under implementation of the Project, redevelopment of underutilized sites could accommodate a total of approximately 205 new housing units and potential rezone parcels could accommodate a total of approximately 1,628 new housing units. Based on this, by implementing the Project, the City would be able to provide approximately 1,833 additional housing units. The addition of approximately 1,833 additional housing units would result in increased demand to water, wastewater, stormwater, and other utilities and its facilities. This increase in demand could require or result in the relocation or construction of new or expanded utility facilities and could result in a potentially significant impact. Therefore, this impact will be evaluated in the EIR.

b) Would the project have sufficient water supply available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Finding: Potentially Significant Impact

Implementation of the Project could result in approximately 1,833 additional housing units in the City which would increase demand for water supply. The Project would require an evaluation of water supply needs, which would include an analysis of the sufficiency of available and new water supplies to serve the Project, in addition to reasonably foreseeable development. As such, this potentially significant impact will be evaluated in the EIR.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Finding: Potentially Significant Impact

Implementation of the Project could result in approximately 1,833 additional housing units in the City which would increase demand for wastewater treatment. This increased demand could result in a determination by the wastewater treatment provider that it does not have capacity to serve the projected demand and could result in a potentially significant impact. Therefore, this impact will be evaluated in the EIR.

d) Would the project 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?

Finding: Less Than Significant Impact

According to CalRecycle, in 2022 the City's residential population had a solid waste disposal rate of 6.3 pounds per day per person, and the City had a total disposal amount of 28,468 tons annually (CalRecycle 2022). According to the DOF, as of January 2023, the City is estimated to have a persons per household rate of 1.83 persons per household (DOF 2023). Therefore, as implementation of the Project would provide approximately 1,833 additional housing units to the City, the 1,833 additional units would be anticipated to result in a population of 3,354 people. Using the disposal rate provided by CalRecycle, the 3,354 residents would result in a generation of approximately 21,130 pounds per day (10.6 tons per day) of solid waste. This would result in an increase of 3,869 tons of solid waste generated by the City annually. As identified previously, the City had a total annual disposal amount of 28,468 tons in 2022. The potential increase in solid waste generated by implementation of the Project would represent a 14 percent increase in solid waste generated by the City per day and annually. This is not anticipated to result in significant impacts, as buildout of the additional residential units would take place over time and solid waste generated would increase incrementally over time as the additional residential units are constructed.

Future residential development resulting from Project implementation would be required to comply with City Municipal Code Section 11.4.10.025, Recycling and Solid Waste Facilities, which includes standards for solid waste and recycling areas. Additionally, construction activities associated with development of the Housing Opportunity Sites identified in the Housing Element Update would be required to comply with all City construction and demolition waste requirements. City Municipal Code Chapter 9.65, Recycling and Diversion of Construction and Demolition Waste, outlines requirements such as preparation of a waste management plan, diversion requirements for construction and demolition debris, and reporting requirements. Future residential development resulting from Project implementation would not generate solid waste in excess of standards or capacity of infrastructures and impacts would be less than significant. As such, this topic does not require further evaluation in the EIR.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Finding: Less Than Significant Impact

Exiting regulations related to solid waste include AB 939 California Integrated Waste Management Act, AB 341, AB 1327 California Solid Waste Reuse and Recycling Act of 1991, California Green Buildings Standards Code, and the City Municipal Code Section 11.4.10.025, Recycling and Solid Waste Facilities, and Chapter 9.65, Recycling and Diversion of Construction and Demolition Waste. The Project would be required to adhere to all relevant existing statutes and regulations related to solid waste, including waste diversion and reduction measures adopted by the City. Compliance with existing statutes and regulations would ensure that future residential development resulting from Project implementation are constructed

and operated in accordance with solid waste statues and regulations, and this impact would be less than significant. As such, this topic does not require further evaluation in the EIR.

3.20 WILDFIRE

WILDFIRE Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones;				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 Environmental Setting

The City and Project area are surrounding by urban and developed lands. The neighborhood of College Park West is identified by the City as a community of risk to wildfire as a result of its isolation, proximity to open space areas, topographic conditions, and regional wind patterns (City of Seal Beach 2003). The Housing Opportunity Sites and surrounding vicinities are not identified as communities at risk and do not contain land designated as a VHFHSZ (CAL FIRE 2023a).

The Housing Opportunity Sites are located within the jurisdiction of the OCFA Division 1. The majority of the City, including the Housing Opportunity Sites, are located within a Local Responsibility Area, as much of the City has been identified as have a low risk for wildfire. Furthermore, Federal Responsibility Areas (FRAs) are located in the central portion of the City, encompassing Seal Beach NWR, Joint Forces Training Base, and the Seal Beach Naval Weapons Station (CAL FIRE 2023c).

The City's General Plan Safety Element includes the following goals and policies related to wildfire hazards (City of Seal Beach 2003):

- Policy 1A: Periodically review and update the Emergency Operations Plan to ensure effective implementation of the Plan during an emergency. Incorporate into the Plan as appropriate:
    - a citizen response model using a neighborhood coordinate system, such as a Neighborhood Watch program;

  - a comprehensive communications component that maximizes public emergency coordination, response and resource allocation;
  - a program of coordination with county, regional, state, and federal emergency agencies, schools, hospitals, and utility companies and their plans; and
  - a program of coordination with the police.

- Policy 1B: Amend the Emergency Operations Plan to include evacuation plans, and include provisions for emergency shelter, transportation, clothing, food and medical aid, identifying the facilities and persons within the community that may be utilized in an emergency and communicating this information to neighborhood associations and the American Red Cross.
- Policy 4A: Ensure that adequate facilities and fire service personnel are maintained based on population, fire hazards in and around the City and a performance standard of an average total reflect time of seven minutes or less.
- Policy 4B: Educate and inform the public on fire safety, especially regarding landscaping installation and maintenance in urban areas, to further protect the community and the environment from unnecessary fire hazards.
- Policy 4C: Enhance the ability of all structures within the City to resist wildland and structural fires throughout ongoing, appropriate and cost-effective changes to the City's Zoning, Building and Fire Codes and standards.
- Policy 4D: Work with the Water Department and OCFA to analyze the supply and delivery of the water system for fire fighting use to help identify and correct deficiencies.
- Policy 4E: Develop and early warning system of Santa Ana wind fire danger to alert the public of possible precautions or safety measures that may be taken during those critical times.
- Policy 4F: As a condition of new development, require private responsibility for development and maintenance necessary new fire flow water lines and hydrants in accordance with the recommendations of OCFA.
- Policy 4G: Encourage property owners to create defensible space surrounding their homes, including providing access for firefighters, maintaining planting and outdoor areas, and minimizing combustible structures.

3.20.2 Environmental Impact Analysis

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Commented [SP43]: The potential impact to emergency response and evacuation from traffic delays due to increased congestion needs to be evaluated in the EIR, made transparent to the public, receive public review. Potentially significant impacts should be avoided or mitigated.

Finding: No Impact

Project implementation would not occur within a SRA or VHFHSZ. Furthermore, the City has prepared an EOP and a LHMP to ensure protection of City residents in times of emergency and to identify local hazards and provide measures to address these hazards (City of Seal Beach 2017). Future residential development resulting from Project implementation would be required to comply with applicable fire and building codes and would be required to be reviewed by OCFA's Community Risk Reduction Division prior to approval. Additionally, Project implementation would be required to comply with policies identified in the General Plan to ensure effective emergency response. Compliance with General Plan policies, applicable fire and building codes, and the City's Emergency Operations Plan and LHMP would ensure that Project implementation would not substantially impair an adopted emergency response plan or evacuation plan, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

b) Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

b-d) Finding: No Impact

The Project proposes rezoning program to accommodate the planning of low- and moderate-income housing, as required by the state's RHNA allocation for the City. As Project implementation would not occur within an SRA or VHFHSZ, the Project would entail the redevelopment and rezoning of the Housing Opportunity Sites identified in the Housing Element Update. Future development resulting from Project implementation would be required to adhere to a wide range of state and local codes pertaining to fire protection and would be required to comply with OCFA requirements. Adherence to City and County requirements and Project review by the OCFA Community Risk Reduction Division would minimize impacts resulting from Project implementation to the extent possible and would ensure that new development would not exacerbate fire hazards and would not expose people or structures to significant risks associated with post-fire landslides, mudflows, and flooding. Therefore, with implementation of applicable state and local codes and adherence to the City and County requirements, Project

implementation would not exacerbate fire risks or expose people or structures to significant risks, and there would be no impact.

Project implementation would result in the parcels being converted for additional housing and would result in construction and installation of associated infrastructure to accommodate new development. Associated infrastructure would be constructed in accordance with City and County requirements and regulations and would be required to adhere to the measures in the individual requirements for new infrastructure to minimize potential impacts. Additionally, future residential development resulting from Project implementation would be required to implement General Plan policies identified to minimize risk from wildfire hazards. With adherence to applicable building practices and requirements, infrastructure associated with Project implementation would not exacerbate fire risk, and there would be no impact. As such, this topic does not require further evaluation in the EIR.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

3.21.1 Environmental Impact Analysis

a) Would the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Finding: **Potentially Significant Impact**

Project implementation would result in potentially significant impacts to biological and cultural resources, and these impacts will be further analyzed in the EIR. Consultation pursuant to AB 52 and SB 18 is currently being conducted and has not yet been completed at the time of this document. As such, impacts related to tribal cultural resources are potentially significant and will be analyzed further in the EIR.

b) Would the project have impacts that are individually limited, but cumulative considerable? ("Cumulative considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?

Finding: **Potentially Significant Impact**

The proposed Project, in conjunction with other past, present, and reasonably foreseeable future related projects, has the potential to result in significant cumulative impacts when the independent impacts of the

proposed Project and the impacts of related projects combine to create impacts greater than those of the proposed Project alone. A list of the related projects or growth projections will be developed for the EIR. The potential for the proposed Project in conjunction with the related projects and their cumulative contributions to environmental impacts will be evaluated in the EIR.

The cumulative impacts addressed in the EIR will be the same as the individual resource areas which will be evaluated in the EIR. The extent and significance of potential cumulative impacts resulting from the combined effects of the proposed Project plus other past, present, and reasonably foreseeable future projects will be evaluated in the EIR.

Commented [SP44]: Cumulative impacts that need to be identified, evaluated, and avoided or mitigated in the EIR include, at minimum, all of the following: Noise, Traffic, Emergency Response Time, Evacuation Time, Water Demand and Supply, Electric Power Demand and Supply, Recreational Resources, Sewer Capacity, Stormwater Management Capacity, Flood Prevention and Flood Prevention Infrastructure Capacity.

c) Would the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Finding: **Potentially Significant Impact**

As described in this Initial Study, implementation of the proposed Project could result in impacts to human beings resulting from potential air quality and GHG emissions, noise, transportation, and water quality impacts. Therefore, further analysis of these potential impacts is required, and potential impacts will be evaluated in the EIR.

4.0 REPORT PREPARATION

4.1 LIST OF PREPARERS

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Appendix B
Air Quality, Greenhouse Gas, and Energy Impact Assessment

Air Quality, Greenhouse Gas, and Energy Impact Assessment

City of Seal Beach Housing Element and Zoning Code Updates Project

February 28, 2025

Prepared for:

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ABBREVIATIONS

$\mu g/m^3$	Micrograms Per Cubic Meter
AB	Assembly Bill
ACBMs	Asbestos-Containing Building Materials
AQMP	Air Quality Management Plan
BTU	British Thermal Unit
C. immitis	Coccidiodes immitis
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	Methane
City	City of Seal Beach
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CPUC	California Public Utilities Commission
DPM	Diesel Particulate Matter
DRRP	Diesel Risk Reduction Plan
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EO	Executive Order
EPCA	Energy Policy and Conservation Act
FCAA	Federal Clean Air Act
GHG	Greenhouse Gases
GWh	gigawatt-hours
GWP	Global Warming Potential
HAP	Hazardous Air Pollutants
HCD	California Department of Housing and Community Development
HFCs	Hydrofluorocarbons
HRA	Health Risk Assessment
IRA	Inflation Reduction Act
kBTU	1,000 British Thermal Units
kWh	kilowatt-hour
LCFS	Low Carbon Fuel Standard
LEV	Low-Emission Vehicle
LSTs	Localized Significance Thresholds
MC/RHD	Mixed Commercial/Residential High Density
MMT	Million Metric Tons
$MMTCO_2e$	Million Metric Tons of Carbon Dioxide Equivalents
MSSP	Main Street Specific Plan

$MTCO_2e$	Metric Tons of Carbon Dioxide Equivalents
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHTSA	National Highway Traffic Safety Administration
NOA	Naturally Occurring Asbestos
NF_3	Nitrogen Trifluoride
NO_X	Oxides of Nitrogen
NO_2	Nitrogen Dioxide
O_3	Ozone
Pb	Lead
PFCs	Perfluorocarbons
PM	Particulate Matter
$PM_{2.5}$	Fine particulate matter; particulate matter 2.5 microns or smaller
PM_{10}	Particulate matter; particulate matter 10 microns or smaller
ppb	parts per billion
ppm	parts per million
Project	City of Seal Beach Housing Element and Zoning Code Updates Project
RFS	Renewable Fuel Standard
RHNA	Regional Housing Needs Allocation
ROG	Reactive Organic Gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RPS	Renewable Portfolio Standard
SAFE	Safer Affordable Fuel-Efficient
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SoCalGas	Southern California Gas Company
TAC	Toxic Air Contaminant
USEPA	United States Environmental Protection Agency
USC	United States Code
VMT	Vehicle Miles Traveled
ZEV	Zero Emission Vehicle

1.0 EXECUTIVE SUMMARY

1.1 PROJECT UNDERSTANDING

The City of Seal Beach Housing Element and Zoning Code Updates Project (Project) would involve implementing the City's Housing Element Update, which is intended to provide the City of Seal Beach (City) with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle. The Housing Element Update identifies an inventory of Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's Regional Housing Needs Allocation (RHNA). The City's latest RHNA calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories. Of the eight Housing Opportunity Sites included in the Project, six would require rezoning, and two are underutilized sites that do not require rezoning. The City's rezoning effort would also include the establishment of a new zoning designation, "Mixed Commercial/Residential High Density" (MC/RHD). In addition to the Housing Opportunity Sites, the Housing Element Update includes a modification to the existing Main Street Specific Plan (MSSP). This analysis provides a programmatic evaluation of future development of up to 1,606 new residential units facilitated by the Project.

1.2 SUMMARY OF ANALYSIS

Impact AIR-1: The Project would not conflict with or obstruct implementation of the applicable air quality plan. **Significant and Unavoidable Impact.**

Impact AIR-2: The Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard. **Significant and Unavoidable Impact.**

Impact AIR-3: The Project would not expose sensitive receptors to substantial pollutant concentrations. **Significant and Unavoidable Impact.**

Impact AIR-4: The Project would not result in other emissions (such as those leading to odors) affecting a substantial number of people. **Less Than Significant Impact.**

Impact GHG-1: The Project would not generate direct and indirect greenhouse gas emissions that would result in a significant impact on the environment. **Significant and Unavoidable Impact.**

Impact GHG-2: The Project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. **Less Than Significant Impact with Mitigation Incorporated.**

Impact ENR-1: The Project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. **Less Than Significant Impact.**

Impact ENR-2: The Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. **Less Than Significant Impact.**

1.3 MITIGATION MEASURES

MM AQ-1. **Quantify Construction Criteria Pollutant Emissions.** Prior to discretionary approval by the City for development projects subject to CEQA review, project applicants shall prepare and submit a technical air quality assessment estimating project construction-related criteria pollutant emissions to the City for review and approval. The evaluation shall be prepared in accordance with SCAQMD guidance. If construction-related criteria pollutant emissions are determined to have the potential to exceed the SCAQMD regional and localized thresholds of significance, emission reduction measures shall be incorporated into the project to the maximum extent feasible, subject to the discretion of the City. Acceptable options for reducing emissions may include:

- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 emission limits for engines above 50 horsepower.
- Require all paints and architectural coatings to be super-compliant VOC content (0 grams/Liter [g/L] to 10 g/L). If VOC emissions still exceed thresholds, then the applicant may elect to prohibit architectural coating activities during summer months (June, July, and August) when ozone formation peaks.

Regardless of the results of the emissions modeling, the following best practices shall be implemented throughout the duration of all construction activity:

- All off-road equipment operating at the construction site must be maintained in proper working condition according to manufacturers' specifications.
- Idling shall be limited to 5 minutes or less in accordance with the Off-Road Diesel Fueled Fleet Regulation as required by CARB.
- Clear Signage regarding idling restrictions shall be placed at the entrances to the construction site.
- Portable equipment over 50 horsepower must have either a valid SCAQMD Permit to Operate (PTO) or a valid statewide Portable Equipment Registration Program (PERP) placard and sticker issued by CARB.
- Water all active construction areas at least three times daily, or as often as needed to control dust emissions. Watering should be sufficient to prevent airborne dust from leaving the site.

- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- Pave, apply water three times daily or as often as necessary to control dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.

MM AQ-2. **Quantify Operational Criteria Pollutant Emissions.** Prior to discretionary approval by the City for development projects subject to CEQA review, project applicants shall prepare and submit a technical air quality assessment estimating project operational-related criteria pollutant emissions to the City for review and approval. The evaluation shall be prepared in accordance with SCAQMD guidance. If operational-related criteria pollutant emissions are determined to have the potential to exceed the SCAQMD thresholds of significance, emission reduction measures shall be incorporated into the project to the maximum extent feasible, subject to the discretion of the City. Acceptable options for reducing operational emissions may include, but are not limited to, the following:

- Prohibition of natural gas hearths.
- Installation of solar water heaters or tankless water heaters.
- Exceeding Title 24 energy standards.
- Constructing Level 2 EV charging stations for multi-family developments and pre-wiring to allow for Level 2 EV charging stations in single-family residential garages.
- Require all paints and architectural coatings to be super-compliant VOC content (0 to 10 g/L).

MM AQ-3. **Construction Health Risk Assessment.** Prior to future discretionary project approval for any component that would involve construction lasting more than 2 months and within 1,000 feet of sensitive receptors, the project applicant shall submit a construction health risk assessment (HRA) to the City for review and approval. The level of detail required for the HRA is described below:

A quantitative health risk assessment shall be prepared in accordance with SCAQMD and OEHHA guidance to identify the potential for increased cancer and non-cancer health risks. If the health risks do not exceed the applicable thresholds, further mitigation is not necessary. If the resultant health risks are determined to exceed SCAQMD thresholds of significance, the applicant shall implement measures to reduce DPM exhaust emissions and associated risks to below the applicable thresholds. Methods may include requiring the use of off-road equipment engines that meet or exceed CARB's Tier 4 Final engine emissions standards for off-road equipment exceeding 50 horsepower (hp).

Any emissions reduction measures identified in the HRA shall be incorporated into the site development plan as a component of the project. Prior to issuance of any construction permit, the construction contractor shall ensure that all construction plans submitted to the Community Development Department clearly show incorporation of all applicable mitigation measures.

MM GHG-1. **Implement GHG Reduction Measures.** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to GHG emissions. Such measures may include the following or other comparable measures identified by the City:

a) Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including:
    - Use energy efficient materials in building design, construction, rehabilitation, and retrofit.
    - Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems.
    - Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight.
    - Incorporate passive environmental control systems that account for the characteristics of the natural environment.
    - Use high-efficiency lighting and cooking devices.
    - Incorporate passive solar design.
    - Use high-reflectivity building materials and multiple glazing.
    - Prohibit gas-powered landscape maintenance equipment.
    - Install electric vehicle charging stations.
    - Reduce wood burning stoves or fireplaces.
    - Provide bike lanes accessibility and parking at residential developments.
b) Include off-site measures to mitigate a project's emissions.
c) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction, and operation of projects to minimize GHG emissions, including but not limited to:
    - Use energy and fuel-efficient vehicles and equipment;
    - Deployment of zero- and/or near zero emission technologies;
    - Use lighting systems that are energy efficient, such as LED technology;
    - Use the minimum feasible amount of GHG-emitting construction materials;
    - Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;

- Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
- Incorporate design measures to reduce energy consumption and increase use of renewable energy;
- Incorporate design measures to reduce water consumption;
- Use lighter-colored pavement where feasible;
- Recycle construction debris to maximum extent feasible;
- Plant shade trees in or near construction projects where feasible; and
- Solicit bids that include concepts listed above.

d) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:
   - Promote transit-active transportation coordinated strategies;
   - Increase bicycle carrying capacity on transit and rail vehicles;
   - Improve or increase access to transit;
   - Increase access to common goods and services, such as groceries, schools, and day care;
   - Incorporate the neighborhood electric vehicle network;
   - Orient the project toward transit, bicycle and pedestrian facilities;
   - Improve pedestrian or bicycle networks, or transit service;
   - Provide traffic calming measures;
   - Provide bicycle parking;
   - Limit or eliminate park supply;
   - Unbundle parking costs;
   - Provide parking cash-out programs;
   - Implement or provide access to commute reduction program;
e) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
f) Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
g) Designate a percentage of parking spaces for ride-sharing vehicles or high occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
h) Land use siting and design measures that reduce GHG emissions, including:
   - Retaining on-site mature trees and vegetation, and planting new canopy trees;
   - Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging

stations or neighborhood electric vehicle networks, or charging for electric bicycles; and

- Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.

2.0 INTRODUCTION

2.1 PURPOSE OF ANALYSIS

The purpose of this Air Quality, Greenhouse Gas, and Energy Impact is to evaluate the existing conditions and potential impacts to air quality, greenhouse gas (GHG) emissions, and energy resource areas from construction and operations of the development facilitated by Project. This analysis is intended to support preparation of a California Environmental Quality Act (CEQA) program-level Environmental Impact Report (EIR). This evaluation relies on guidance and thresholds established by the United States Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD).

2.2 PROJECT DESCRIPTION

The Seal Beach City Council adopted the City of Seal Beach's Housing Element Update on February 7, 2022. In response to California Department of Housing and Community Development (HCD) comments, the City updated the Housing Element Update on August 24, 2023. The City is preparing the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. The Housing Element Update is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle.

The City's latest RHNA allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories. The City must demonstrate to HCD that the Housing Element Update has adequate land capacity and implementing policies to accommodate its RHNA allocation.

The Project would involve implementing the City's Housing Element Update. The Housing Element Update identifies an inventory of Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's RHNA allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes; and (b) sites where zoning modifications are proposed. The Housing Element Update originally included 13 Housing Opportunity Sites. However, in response to comments received from HCD during the CEQA process, the number of Housing Opportunity Sites identified has been reduced to eight. Of the eight Housing Opportunity Sites, six would require rezoning. The City's rezoning effort would also include the establishment of a new zoning designation, MC/RHD, which would apply to five of the eight Housing Opportunity Sites. The new MC/RHD mixed-use zoning designation is needed to facilitate a density equivalent to Residential High Density (RHD)-46 (up to 46 units per acre) but with a minimum density of 40 units per acre. This new zone district would facilitate housing for lower-income households as required by the state's RHNA allocation for the City and facilitate the inclusion of affordable units. In addition to the Housing Opportunity Sites, the Housing Element Update includes a proposal for the Main Street Program. The Housing Element Update's Main Street Program does not identify specific housing opportunity sites but would

modify the existing MSSP to allow for residential units to be developed at select properties located within the MSSP area. The analysis contained herein assumes the development under the Main Street Program at 70 precent of maximum buildout resulting in the potential for 115 new dwelling units to be developed within the MSSP area. Finally, this analysis also accounts for the residential component of the Old Ranch Country Club (ORCC). The Housing Element Update identified Old Ranch Country Club Pipeline Project as a pipeline project. As such, specific impact findings associated with the development of the Old Ranch Country Club Pipeline Project are being evaluated separately by the City in a standalone EIR. The Old Ranch Country Club Pipeline Project is a proposed 5.2-acre Specific Plan on the existing Old Ranch Country Club and would convert a portion of the existing golf course to a mixed-use development with 167 residential units. The 167 residential units of Old Ranch Country Club Pipeline Project (herein referred to as the residential component of the ORCC Specific Plan Project) are programmatically evaluated within this EIR as these 167 residential units are included within the City's site inventory to meet its RHNA requirements. The other portions of the ORCC Specific Plan are not included within RHNA requirements and therefore were not included within this analysis.

In total, the analysis contained herein assumed buildout under the Project to result in the potential for 1,773 new dwelling units (1,491 dwelling units from the eight Housing Opportunity Sites, 115 dwelling units from the Main Street Program, and the 167 units from the residential component of the ORCC Specific Plan Project) to be developed within the City.

Based on this, by implementing the Project, the City would be able to provide 1,606 additional housing units, thereby accommodating the 2021-2029 RHNA allocation (1,243 new housing units) and a substantive buffer to demonstrate capacity for all income levels. The buildout assumptions for development of the Project are shown in Table 1.

Table 1. Housing Element Update Buildout Assumptions

Site No.	Site Name	Developable Acres	Maximum Density (du/ac)	Total Units
Underutilized Sites				
1	1780 Pacific Coast Highway	0.25	21.8	5
2	Leisure World	5.5	32.2	177
Total Units from Underutilized Sites				*182*
Rezoned Sites				
3	Accurate Storage	1.8	46	83
4	The Shops at Rossmoor	12	46	552
5	Old Ranch Town Center	8.3	46	382
6	Seal Beach Plaza	1.5	46	69
7	Seal Beach Center	2.7	46	124
8	99 Marina Drive	3	33	99
Total Units from Proposed Rezoning				*1,309*

Site No.	Site Name	Developable Acres	Maximum Density (du/ac)	Total Units
Total Units including Underutilized Sites and Rezone		**35.05**	**--**	**1,491**
Other Sites				
Main Street Program*		--	--	115
Residential Component of the ORCC Specific Plan Project		5.2		167
Total Units under Buildout				**1,773**

* The Housing Element Update assumes under the Main Street Program, two residential units would be proposed and permitted within the Main Street Specific Plan area during the Housing Element Update's planning period. However, based on a 70 percent buildout scenario of the 163 total dwelling units identified in the Initial Study for the Main Street Specific Plan area, 115 dwelling units is the assumed buildout condition under the Main Street Program for the purposes of CEQA.

2.2.1 Surrounding Land Uses and Existing Conditions

The Project site is comprised of eight identified Housing Opportunity Sites dispersed throughout the City of Seal Beach, California and totaling approximately 83.45 acres. However, the majority of the Housing Opportunity Sites would only allow for development within portions of the overall Housing Opportunity Site due to existing development and, therefore, the total developable acres for the Housing Opportunity Sites would total 35.05 acres. Additionally, the Project site includes the Main Street Specific Plan area which provides an additional 9.2 acres of developable acres. Therefore, the Project includes 92.65 total acres of land within the City but would have a total developable acreage of 44.25 acres.

The City is located at the northwestern edge of Orange County, California. It borders the City of Long Beach and Los Angeles County to the northwest, the Orange County cities of Los Alamitos to the north, Westminster to the east, Huntington Beach to the southeast, and the Pacific Ocean to the southwest.

As the existing land uses are comprised of a variety of land uses across the City, the surrounding land uses are similarly varied in character. Surrounding land uses generally consist of residential development, vacant land, commercial and retail uses, parking lots, mobile home parks, institutional and industrial uses, and military uses as well as other urban and suburban land uses throughout the City.

3.0 AIR QUALITY

3.1 ENVIRONMENTAL SETTING

The Project is located within the City of Seal Beach in Orange County, which is within the South Coast Air Basin (SCAB). SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and is under the jurisdiction of the SCAQMD. Regulatory oversight authority regarding air quality rests at the local, State, and federal levels with the SCAQMD, California Air Resources Board (CARB), and U.S. Environmental Protection Agency (USEPA), respectively.

The existing air quality setting is described further below.

3.1.1 Climate and Meteorology

The SCAB covers approximately 12,000 square miles, consisting of Orange County and the urbanized areas of San Bernardino, Riverside, and Los Angeles counties. The distinctive climate of the SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. The SCAB is classified as a dry-hot desert climate (SCAQMD 1993).

3.1.2 Criteria Air Pollutants

Criteria air pollutants includes ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (measured both in units of smaller than 2.5 microns in diameter [$PM_{2.5}$] and in units of particulate matter smaller than 10 microns in diameter [PM_{10}]), and lead (Pb).

Ozone. Most ground-level ozone is formed as a result of complex photochemical reactions in the atmosphere between reactive organic gases (ROG), nitrogen oxides (NOx), and oxygen. ROG and NOx are considered precursors to the formation of ozone, a highly reactive gas that can damage lung tissue and affect respiratory function. While ozone in the lower atmosphere is considered a damaging air pollutant, ozone in the upper atmosphere is beneficial, as it protects the Earth from harmful ultraviolet radiation. However, atmospheric processes preclude ground-level ozone from reaching the upper atmosphere (USEPA 2023a).

Carbon Monoxide. CO is a colorless, odorless, poisonous gas produced by the incomplete combustion of fossil fuels. Elevated levels of CO can result in harmful health effects, especially for the young and elderly, and can also contribute to global climate change (USEPA 2023a).

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas primarily produced as a result of the burning of fossil fuels. NO_2 can also lead to the formation of ozone in the lower atmosphere. NO_2 can cause respiratory ailments, especially in the young and elderly, and can lead to degradations in the health of aquatic and terrestrial ecosystems (USEPA 2023a).

Sulfur Dioxide. SO_2 is primarily emitted from the combustion of coal and oil by steel mills, pulp and paper mills, and non-ferrous smelters. High concentrations of SO_2 can aggravate existing respiratory and cardiovascular diseases in asthmatics and others who suffer from emphysema or bronchitis. SO_2 also contributes to acid rain, which in turn, can lead to the acidification of lakes and streams (USEPA 2023a).

Particulate Matter. Airborne PM is not a single pollutant, but rather is a mixture of many chemical species. PM is a complex mixture of solids and aerosols composed of small droplets of liquid, dry solid fragments, and solid cores with liquid coatings. Particles vary widely in size, shape, and chemical composition, and may contain inorganic ions, metallic compounds, elemental carbon, organic compounds, and compounds from the earth's crust. Particles are defined by their diameter for air quality regulatory purposes. Those with a diameter of 10 microns or less (PM_{10}) are inhalable into the lungs and can induce adverse health effects. Fine particulate matter is defined as particles that are 2.5 microns or less in diameter ($PM_{2.5}$). Therefore, $PM_{2.5}$ compromises a portion of PM_{10}. Emissions from combustion of gasoline, oil, diesel fuel or wood produce much of the $PM_{2.5}$ pollution found in outdoor air, as well as significant proportion of PM_{10}. PM_{10} also includes dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, wind-blown dust from open lands, pollen, and fragments of bacteria.

PM may be either directly emitted from sources (primarily particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as SO_2, NOx, and certain organic compounds (USEPA 2023a).

Lead. Sources of Pb include pipes, fuel, and paint, although the use of Pb in these materials has declined dramatically over the years. Historically, a main source of Pb was automobile emissions. Pb can be inhaled directly or ingested by consuming Pb-contaminated food, water, or dust. Fetuses and children are most susceptible to Pb poisoning, which can result in heart disease and nervous system damage (USEPA 2024a). Through regulations, USEPA has gradually reduced the Pb content of gasoline. This program has essentially eliminated violations of the Pb standard in urban areas except those areas with Pb point sources.

3.1.3 Attainment Status

The USEPA and CARB designate air basins where ambient air quality standards are exceeded as "non-attainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National non-attainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Attainment status is based on the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). Each standard has a different definition, or "form" of what constitutes attainment, based on specific air

quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring value exceeds the threshold per year. In contrast, the federal annual standard for $PM_{2.5}$ is met if the 3-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The Federal Clean Air Act (FCAA) identifies two types of NAAQS. Primary standards provide public health protection, including protecting the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings (USEPA 2023a). The CAAQS are equal to or more stringent than the NAAQS and include pollutants for which national standards do not exist. Table 2 presents the applicable CAAQS and NAAQS.

Table 2. California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	National Standards[2]	
			Primary	Secondary
Ozone (O_3)	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary Standards
	1-hour	0.09 ppm (180 µg/m^3)	--	
Carbon monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	--
	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
	1-hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	
Sulfur dioxide (SO_2)	Annual arithmetic mean	--	0.030 ppm (80 µg/m^3)	--
	24-hour	0.04 ppm (105 µg/m^3)	0.14 ppm (80 µg/m^3)	--
	3-hour	--	--	0.5 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	--	--
Respirable Particulate Matter Smaller than 10 Microns in Diameter (PM_{10})	Annual arithmetic mean	20 µg/m^3	--	Same as Primary Standards
	24-hour	50 µg/m^3	150 µg/m^3	
Respirable Particulate Matter Smaller than 2.5 Microns in Diameter ($PM_{2.5}$)[3]	Annual arithmetic mean	12 µg/m^3	9.0 µg/m^3	15 µg/m^3
	24-hour	No separate standard	35 µg/m^3	Same as Primary Standards
Sulfates	24-hour	25 µg/m^3	--	--

Pollutant	Averaging Time	California Standards[1]	National Standards[2]	
			Primary	Secondary
Lead (Pb)	30-day average	1.5 µg/m^3	--	--
	Calendar quarter	--	1.5 µg/m^3	Same as Primary Standard
	Rolling 3-month average	--	0.15 µg/m^3	
Hydrogen sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	--	--
Vinyl chloride (chloroethene)	24-hour	0.01 ppm (26 µg/m^3)	--	--
Visibility reducing particles	8-hour	In 1989, the Air Resources Board converted the general statewide 10-mile visibility standard to instrumental equivalents, which are extinction of 0.23 per kilometer.	--	--

Notes:
1. CO, SO_2 (1- and 24-hour), NO_2, O_3, PM_{10}, and visibility reducing particles standards are not to be exceeded.
2. Not to be exceeded more than once a year except for annual standards.
3. On February 7, 2024, the USEPA issued a pre-publication version of the Final Rule to lower the primary annual NAAQS for $PM_{2.5}$ from 12.0 µg/m^3 to 9.0 µg/m^3.
-- = no standard established
µg/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
ppm = parts per million
Source: CARB 2016.

Table 3 presents the federal and State attainment status for the SCAB, in which the Project is located. The Project is in an area designated non-attainment for both the federal and State standards for O_3 and $PM_{2.5}$, the State standard for PM_{10}, and the federal standard for lead (SCAQMD 2016a).

Table 3. Attainment Status of the South Coast Air Basin

Pollutant	Federal Designation	State Designation
Ozone (O_3) – 1-Hour and 8-Hour	Non-Attainment (Extreme)	Non-Attainment
Carbon Monoxide (CO) – 1-Hour and 8-Hour	Attainment/Maintenance	Attainment
Nitrogen Dioxide (NO_2) – 1-Hour and Annual	Attainment	Attainment
Sulfur Dioxide (SO_2) – Annual	Unclassifiable/Attainment	*
Particulate Matter (PM_{10}) – 24-Hour	Attainment/Maintenance	Non-Attainment
Particulate Matter ($PM_{2.5}$) – Annual	Non-Attainment (Serious)	Non-Attainment
Lead (Pb) – 3-Month Rolling	Non-Attainment	*

Pollutant	Federal Designation	State Designation
Hydrogen Sulfide (H_2S) – 1-Hour	*	Attainment
Sulfates – 24-Hour	*	Attainment
Vinyl Chloride – 24-Hour	*	Attainment

Note: * = Not Applicable/No Standards.

Source: SCAQMD 2016a.

3.1.4 Ambient Air Quality

The nearest air quality monitoring station to the Project sites is the Anaheim Monitoring Station located at 1630 West Pampas Lane. Table 4 includes a summary of the air quality monitoring data for the years 2021 through 2023. The table shows the number of times the station recorded pollutant concentrations above federal and State air quality standards and the highest annual reading for each pollutant.

Table 4. Anaheim Monitoring Station Data (2021-2023)

Pollutant	Air Pollutant, Averaging Time (Units)	2021	2022	2023
Ozone (ppm)	Maximum 1-hour measurement	0.089	0.102	0.089
	Number of days over National 1-hour standard	0	0	0
	Number of days over California 1-hour standard	0	1	0
	Maximum 8-hour measurement	0.068	0.076	0.076
	Number of days over National 8-hour standard	0	1	2
	Number of days over California 8-hour standard	0	1	2
Nitrogen Dioxide (ppb)	Maximum 1-hour measurement	67.1	53.0	50.9
	Annual average	12	11	10
	Number of days over National 1-hour standard	0	0	0
	Number of days over California 1-hour standard	0	0	0
$PM_{2.5}$ ($\mu g/m^3$)	Maximum 24-hour measurement	54.4	33.1	45.6
	Annual average	11.6	9.9	*
	Number of days over National 24-hour standard	10	0	1
PM_{10} ($\mu g/m^3$)	Maximum 24-hour measurement	63.6	67.0	97.8
	Annual average	23.4	20.9	20.6
	Number of days over National 24-hour standard	0	0	0
	Number of days over California 24-hour standard	1	1	1

Source: CARB 2024a.

Notes: ppm = parts per million; ppb = parts per billion; $\mu g/m^3$ = micrograms per liter; * means there was insufficient data to determine the value.

3.1.5 Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e., irritation, anger, or anxiety) to the physiological (i.e., circulatory and respiratory effects, nausea, vomiting, and headache).

The ability to detect odors varies considerably among the population and is subjective. Some individuals can smell very minute quantities of specific substances; others have varying sensitivities to odors; and people may have different reactions to the same odor (e.g., bakery, gasoline). It is important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience (e.g., a description of flowery or sweet). Intensity refers to the strength of the odor and depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases, the odor intensity weakens, and it eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant drops below a human's detection threshold.

3.1.6 Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air but, due to their high toxicity, they may pose a threat to public health even at very low concentrations. Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which State and federal governments have set ambient air quality standards. TACs, therefore, are not considered "criteria pollutants" under either the FCAA or the California Clean Air Act (CCAA) and are not subject to NAAQS or CAAQS ambient air quality standards. Instead, USEPA and CARB regulate hazardous air pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In conjunction with SCAQMD rules, these federal and State statutes and regulations establish the regulatory framework for TACs. At the national level, USEPA has established national emission standards for hazardous air pollutants (NESHAPs) in accordance with the requirements of the FCAA and subsequent amendments. These are technology-based, source-specific regulations that limit allowable emissions of HAPs.

Within California, TACs are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. The following provides a summary of the primary TACs of concern within the State of California and related health effects.

Diesel Particulate Matter

Diesel particulate matter (DPM) was identified as a TAC by the CARB in August 1998. DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 42 percent of the statewide total, with an additional 55 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about three percent of emissions, include shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report DPM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities (CARB 2024b).

In October 2000, CARB issued a report entitled *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, which is commonly referred to as the Diesel Risk Reduction Plan (DRRP). The DRRP provides a mechanism for combating the DPM problem. The goal of the DRRP is to reduce concentrations of DPM. The key elements of the DRRP are to clean up existing engines through engine retrofit emission control devices, to adopt stringent standards for new diesel engines, and to lower the sulfur content of diesel fuel through advanced technology emission control devices on diesel engines. When fully implemented, the DRRP will significantly reduce emissions from both old and new diesel-fueled motor vehicles and from stationary sources that burn diesel fuel. In addition to these strategies, CARB continues to promote the use of alternative fuels and electrification. As a result of these actions, DPM concentrations and associated health risks in future years are projected to decline (CARB 2024b). In comparison to year 2010 inventory of statewide DPM emissions, CARB estimates that emissions of DPM in 2035 will be reduced by more than 50 percent.

DPM is typically composed of carbon particles (also called “soot” or “black carbon”) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and NOx. NOx emissions from diesel engines are important because they can undergo chemical reactions in the atmosphere leading to formation of $PM_{2.5}$ and O_3.

In California, diesel exhaust particles have been identified as a carcinogen accounting for an estimated 70 percent of the total known cancer risks in California. DPM is estimated to increase statewide cancer risk by 520 cancer occurrences per million residents exposed over an estimated 70-year lifetime. Non-cancer health effects associated with exposure to DPM include premature death, exacerbated chronic heart and lung disease, including asthma, and decreased lung function in children. Short-term exposure to diesel exhaust can also have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks (CARB 2024b).

Individuals most vulnerable to non-cancer health effects of DPM are children whose lungs are still developing and the elderly who often have chronic health problems. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to DPM (CARB 2024b). In addition to its health effects, DPM significantly contributes to haze and reduced visibility.

Valley Fever

Valley fever is an infection caused by a fungus that lives in the soil. The fungus that causes Valley fever, Coccidiodes immitis (*C. immitis*), is found in the southwestern United States, parts of Mexico and Central America, and parts of South America. The fungus grows naturally and is endemic in many areas within California. People can get this infection by breathing in fungal spores from the air, especially when the wind blows the soil with the fungal spores into the air, or the dirt is moved by human activity. About 10,000 cases in the United States are reported each year, mostly from Arizona and California. Valley fever can be misdiagnosed because its symptoms are like those of other illnesses. For most people, the symptoms of Valley fever will go away within a few months without any treatment. Some people may develop a more severe infection, especially those with compromised immune systems (Centers for Disease Control and Prevention 2020).

In California, the number of reported Valley fever cases has greatly increased in recent years. Since 2000, the number of reported cases from increased from 1,000 to more than 9,000 cases reported in 2019 (California Department of Public Health 2021). In 2022, 297 cases of Valley fever were recorded within Orange County (California Department of Public Health 2024).

Asbestos

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals with useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings constructed prior to 1977 when it was banned for use in buildings. Exposure to naturally occurring asbestos can occur during soil disturbing activities in areas with deposits present (USEPA 2024b).

3.1.7 Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiovascular diseases. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The Project sites contain and are located adjacent to various sensitive uses, primarily single- and multi-family residences.

3.2 REGULATORY SETTING

Air quality within the Project area is regulated by several jurisdictions, including the USEPA, CARB, and SCAQMD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although USEPA regulations may not be superseded, both State and local regulations may be more stringent.

3.2.1 Federal

U.S. Environmental Protection Agency

At the federal level, the USEPA has been charged with implementing national air quality programs. The USEPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

Federal Clean Air Act

The FCAA required the USEPA to establish NAAQS, and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. NAAQS are summarized in Table 2.

National Emission Standards for Hazardous Air Pollutants

Pursuant to the FCAA of 1970, the USEPA established the NESHAPs. These are technology-based source-specific regulations that limit allowable emissions of HAPs. Among these sources include asbestos-containing building materials (ACBMs). NESHAPs include requirements pertaining to the inspection, notification, handling, and disposal of ACBMs associated with the demolition and renovation of structures.

Non-Road Diesel Rule

The USEPA has established a series of increasingly strict emissions standards for new off-road diesel equipment, on-road diesel trucks, and locomotives. New construction equipment used for the Project, including heavy-duty trucks and off-road construction equipment, would be required to comply with the emissions standards.

3.2.2 State

California Air Resources Board

The CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts), establishing CAAQS, which in many cases are more stringent than the

NAAQS, and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used. The CAAQS are summarized in Table 2.

California Clean Air Act

The CCAA requires that all air districts in the State endeavor to achieve and maintain CAAQS for O_3, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both State and federal planning requirements.

Assembly Bills 1807 & 2588 - Toxic Air Contaminants

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC.

Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

Assembly Bill 617

In response to AB 617 (C. Garcia, Chapter 136, Statutes of 2017), the CARB established the Community Air Protection Program. The Community Air Protection Program includes community air monitoring and community emissions reduction program's focus is to reduce exposure in communities most impacted by air pollution. The Legislature has appropriated funding to support early actions to address localized air pollution through targeted incentive funding to deploy cleaner technologies in these communities, as well as grants to support community participation in the AB 617 process. AB 617 also includes new requirements for accelerated retrofit of pollution controls on industrial sources, increased penalty fees, and greater transparency and availability of air quality and emissions data, which will help advance air pollution control efforts throughout the State.

Regulatory Attainment Designations

Under the CCAA, CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once,

excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The USEPA designates areas for O_3, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The USEPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, USEPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

As noted previously, the Project is in an area designated non-attainment for both the federal and State standards for O_3 and $PM_{2.5}$, the State standard for PM_{10}, and the federal standard for lead (SCAQMD 2016a).

Low-Emission Vehicle Program

The CARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan (SIP). In 2012, CARB adopted the LEV III amendments to California's LEV regulations. These amendments include more stringent emission standards for both criteria pollutants and greenhouse gases for new passenger vehicles.

On-Road Heavy-Duty Vehicle Program

The CARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, and test procedures. CARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.

In addition, the CARB's Truck and Bus regulation was established to meet federal attainment standards. This regulation requires heavy-duty diesel vehicles that operate in California to reduce TAC emissions

from their exhaust. Diesel exhaust is responsible for 70 percent of the cancer risk from airborne toxics. Therefore, as of January 1, 2023, nearly all trucks and buses were required to have 2010 or newer model year engines to reduce PM and NOx emissions. To help ensure that the benefits of this regulation are achieved, starting in 2020, only vehicles compliant with this regulation were registered by the California Department of Motor Vehicles.

3.2.3 Regional

SCAG Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization for the following six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The SCAG develops long-range regional transportation plans, including sustainable communities strategies pursuant to SB 375, growth forecast components, regional transportation improvement programs, regional housing needs allocations, and a portion of the SCAQMD air quality plans (SCAG 2023). In April 2024, the SCAG Regional Council approved the 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which is entitled Connect SoCal. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies to increase mobility options and achieve a more sustainable growth pattern (SCAG 2024). The 2024 RTP/SCS supersedes the previous RTP/SCS that was adopted in 2020.

South Coast Air Quality Management District

The SCAQMD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded, and the air quality conditions are maintained in the SCAB. Responsibilities of SCAQMD include, but not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA.

SCAQMD 2022 Air Quality Management Plan

SCAB is designated as non-attainment for both federal and State standards for O_3 and $PM_{2.5}$, the State standard for PM_{10}, and the federal standard for lead. Because the SCAB currently exceeds these NAAQS and CAAQS, the SCAQMD is required to implement strategies to reduce pollutant levels to recognized acceptable standards. The most recent air plan is the 2022 Air Quality Management Plan (AQMP), created in conjunction with the SCAG, CARB, and USEPA to meet federal ozone and $PM_{2.5}$ standards.

The 2022 AQMP accounts for projected population growth and predicted future emissions in energy and transportation demand, and determined control strategies for the eventual achievement of the NAAQS attainment designations. These control strategies are either organized into the SCAQMD rules and regulations, or otherwise set forth as formal SCAQMD recommendations to other agencies. The 2022 AQMP includes policies that are consistent with the SCAQMD and specify review according to the

recommendations of SCAQMD guidelines. Other policies are aimed at reducing transportation emissions and emissions from major stationary sources (SCAQMD 2022).

SCAQMD Rules and Regulations

The SCAQMD rules are regulations that may apply to the Project include, but are not limited to, the following:

- **Rule 201: Permit to Construct.** This rule requires that projects shall obtain a permit to construct from the SCAQMD prior to initiating construction activities.
- **Rule 401: Visible Emissions.** This rule prohibits discharges of visible air contaminants from any single source.
- **Rule 402: Nuisance.** This rule prohibits the discharge from any source such quantities of air contaminants or other materials 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.
- **Rule 403: Fugitive Dust.** The purpose of this rule is to reduce the amount of particulate matter in the ambient air as a result of anthropogenic fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.
- **Rule 1113: Architectural Coatings.** This rule is intended to limit the VOC content on architectural coatings used within the SCAQMD.
- **Rule 1403: Asbestos Emissions from Demolition/Renovation Activities:** This rule specifies work practices to limit asbestos emissions from building demolition and renovation activities.

3.2.4 Local

City of Seal Beach General Plan

The City of Seal Beach prepared their General Plan in September 2003 in order to plan for the City's development. The 2013-2021 Housing Element as well as the updated Housing Element include the following goals to promote energy efficiency which would in turn reduce air quality emissions (City of Seal Beach 2003).

- Goal 6: Encourage more efficient energy use in residential developments.
    - Policy 6a: Promote energy conservation through "green building" techniques that reduce water consumption, improve energy efficiency and lessen a building's overall environmental impact.

4.0 GREENHOUSE GAS

4.1 ENVIRONMENTAL SETTING

To fully understand global climate change, it is important to recognize the naturally occurring "greenhouse effect" and to define the GHGs that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect.

4.1.1 Greenhouse Gases

Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF_3), and sulfur hexafluoride (SF_6). Primary GHGs attributed to global climate change are discussed in the following subsections.

Carbon Dioxide. CO_2 is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere (USEPA 2023b).

Methane. CH_4 is a colorless, odorless gas, and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. CH_4 is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (enteric fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of methane to the atmosphere. Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about 12 years (USEPA 2023b).

Nitrous Oxide. N_2O is a clear, colorless gas with a slightly sweet odor. N_2O is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological

sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years (USEPA 2023b).

Hydrofluorocarbons. HFCs are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products. The only significant emissions of HFCs before 1990 were of the chemical HFC-23, which is generated as a byproduct of the production of HCFC-22 (or Freon 22, used in air conditioning applications). The atmospheric lifetime for HFCs varies from just over a year for HFC-152a to 260 years for HFC-23. Most of the commercially used HFCs have atmospheric lifetimes of less than 15 years (e.g., HFC-134a, which is used in automobile air conditioning and refrigeration, has an atmospheric life of 14 years) (USEPA 2023b).

Perfluorocarbons. PFCs are colorless, highly dense, chemically inert, and nontoxic. There are seven PFC gases: perfluoromethane (CF_4), perfluoroethane (C_2F_6), perfluoropropane (C_3F_8), perfluorobutane (C_4F_{10}), perfluorocyclobutane (C_4F_8), perfluoropentane (C_5F_{12}), and perfluorohexane (C_6F_{14}). Natural geological emissions have been responsible for the PFCs that have accumulated in the atmosphere in the past; however, the largest current source is aluminum production, which releases CF_4 and C_2F_6 as byproducts. The estimated atmospheric lifetimes for CF_4 and C_2F_6 are 50,000 and 10,000 years, respectively (USEPA 2023b).

Nitrogen Trifluoride. NF_3 is an inorganic, colorless, odorless, toxic, nonflammable gas used as an etchant in microelectronics. NF_3 is predominantly employed in the cleaning of the plasma-enhanced chemical vapor deposition chambers in the production of liquid crystal displays and silicon-based thin film solar cells. In 2009, NF_3 was listed by California as a potential GHG to be listed and regulated under AB 32 (Section 38505 Health and Safety Code).

Sulfur Hexafluoride. SF_6 is an inorganic compound that is colorless, odorless, nontoxic, and generally nonflammable. SF_6 is primarily used as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80percent of all SF_6 produced worldwide. Leaks of SF_6 occur from aging equipment and during equipment maintenance and servicing. SF_6 has an atmospheric life of 3,200 years (USEPA 2023c).

Black Carbon. Black carbon is the most strongly light-absorbing component of PM emitted from burning fuels such as coal, diesel, and biomass. Black carbon contributes to climate change both directly by absorbing sunlight and indirectly by depositing on snow and by interacting with clouds and affecting cloud formation. Black carbon is considered a short-lived species, which can vary spatially and, consequently, it is very difficult to quantify associated global-warming potentials. The main sources of black carbon in California are wildfires, off-road vehicles (locomotives, marine vessels, tractors, excavators, dozers, etc.), on-road vehicles (cars, trucks, and buses), fireplaces, agricultural waste burning, and prescribed burning (planned burns of forest or wildlands). California has been an international leader in reducing emissions of black carbon, including programs that target reducing PM from diesel engines and burning activities (CARB 2013).

4.1.2 Global Warming Potential

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential (GWP).

Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. Based on a 100-year time horizon, Methane traps over 25 times more heat per molecule than CO_2, and N_2O absorbs roughly 298 times more heat per molecule than CO_2. Additional GHGs with high GWP include NF_3, SF_6, PFCs, and black carbon.

4.1.3 Sources of Greenhouse Gas Emissions

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. World-wide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions.

United States of America

In 2022, net GHG emissions in the United States totaled 5,489 $MMTCO_2e$, an increase of one percent when compared to 2021 emissions. Within the United States, the largest contributor to GHG emissions is the transportation sector (28 percent). The next largest contributors are from electricity production (25 percent) and industry (23 percent), followed by the commercial and residential sector (13 percent) and the agricultural sector (10 percent). Transportation emissions primarily come from burning fossil fuels for cars, trucks, ships, trains, and planes. Over 90 percent of the fuel used for transportation is petroleum-based, which includes primarily gasoline and diesel. The bulk of emissions generated from energy production come from burning fossil fuels, mostly coal and natural gas. Industry emissions are also primarily generated from fossil fuels burned for heat, the use of certain products that contain GHGs, and the handling of waste. Similar to industry sector emissions, commercial and residential uses arise primarily from fossil fuels for heat, the use of certain products that contain GHGs, and the handling of waste. Agricultural emissions come from livestock such as cows, agricultural soil, and rice production. The land use and forestry sector within the U.S. serves as a carbon sink. Carbon sinks absorb CO_2 from the atmosphere. Land areas across the U.S. absorbed approximately 12 percent of the 2021 GHG emissions (USEPA 2024d).

California

In 2022, GHG emissions within California totaled 371.1 $MMTCO_2e$. Similar to national emissions, in California, the transportation sector is the largest contributor. Transportation emissions account for approximately 39 percent of the total statewide GHG emissions. The majority of transportation emissions are derived from passenger vehicles and heavy-duty trucks. Emissions associated with industrial uses are

the second largest contributor, totaling roughly 23 percent. Industrial emissions are driven by fuel combustion from sources that include refineries, oil and gas extraction, cement plants, and the portion of cogeneration emissions attribution to thermal energy output. Electricity generation (in-state and imports) totaled roughly 16 percent. Other GHG sources include agriculture (8 percent), residential (8 percent), and commercial (6 percent) (CARB 2024e).

4.1.4 Effects of Global Climate Change

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, increased air pollution episodes, and the consequence of these effects on the economy.

Within California, climate changes would likely alter the ecological characteristics of many ecosystems throughout the State. Such alterations would likely include increases in surface temperatures and changes in the form, timing, and intensity of precipitation. For instance, historical records are depicting an increasing trend toward earlier snowmelt in the Sierra Nevada. This snowpack is a principal supply of water for the State, providing roughly 50 percent of State's annual runoff. If this trend continues, some areas of the State may experience an increased danger of floods during the winter months and possible exhaustion of the snowpack during spring and summer months. An earlier snowmelt would also impact the State's energy resources. An early exhaustion of the Sierra snowpack may force electricity producers to switch to more costly or non-renewable forms of electricity generation during spring and summer months. A changing climate may also impact agricultural crop yields, coastal structures, and biodiversity. As a result, resultant changes in climate will likely have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry.

4.2 REGULATORY SETTING

There are considerable regulatory actions regarding GHGs and climate change at the State and local level. The following includes the key State and regional regulations applicable to the Project.

4.2.1 State

Assembly Bill 32 and Senate Bill 32

AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. GHGs, as defined under AB 32, include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, NF_3, has also been added to the list of GHGs. CARB is the State agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> *Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming*

> *include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.*

CARB approved the 1990 GHG emissions level of 427 $MMTCO_2e$ on December 6, 2007. Therefore, to meet the State's target, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. In order to set a framework for the State to meet this target, CARB was tasked with creating a Scoping Plan (as described below). California announced in July 2018 that the State emitted 427 $MMTCO_2e$ in 2016 and achieved AB 32 goals (CARB 2018).

SB 32 was signed into law on September 8, 2016. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit no later than December 31, 2030."

Assembly Bill 1279: The California Climate Crisis

AB 1279 was signed into law in 2022 and establishes the policy of the State to achieve carbon neutrality as soon as possible, but no later than 2045, and maintain net negative GHG emissions thereafter. AB 1279 would also ensure that by 2045 the statewide anthropogenic GHG emissions are reduced by at least 85percent below 1990 levels. The bill would require CARB to ensure that an updated Scoping Plan identifies and recommends measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable carbon dioxide removal and carbon capture, utilization, and storage technologies to complement AB 1279's emissions reduction requirements.

2022 Climate Change Scoping Plan

The 2022 Scoping Plan was approved in December 2022 and assesses progress toward achieving the SB 32 2030 target and laying out a path to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities (CARB 2022).

Cap-and-Trade Program

CARB administers the State's cap-and-trade program, which covers GHG sources that emit more than 25,000 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year), such as refineries, power plants, and industrial facilities. This market-based approach to reducing GHG emissions provides economic incentives for achieving GHG emission reductions.

Senate Bill 375: The Sustainable Communities and Climate Protection Act of 2008

SB 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits more than 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

CARB has prepared a Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets in 2018 which set updated GHG reduction targets for metropolitan planning organizations for 2020 and 2035. Pursuant to SB 375, the SCAG reduction targets for per capita vehicular emissions were 8 percent by 2020 and are 13 to 19 percent by 2035 (CARB 2024c).

Assembly Bill 1493: Pavley Regulations and Fuel Efficiency Standards

AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations and fuel efficiency standards that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by USEPA's denial of an implementation waiver. USEPA subsequently granted the requested waiver in 2009, which was upheld by the by the U.S. District Court for the District of Columbia in 2011.

The standards were phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards resulted in an approximately 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards resulted in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation, rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for AB 1493 was incorporated into Amendments to the Low-Emission Vehicle Program, referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Cars program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation would reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The rules would reduce pollutants from gasoline and diesel-powered cars and would deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles, and hydrogen fuel cell cars. The regulations would also provide adequate fueling infrastructure for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

Senate Bill 1368: Emission Performance Standards

Enacted in 2006, SB 1368 directs the California Public Utilities Commission (CPUC) to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than five years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant.

Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The CPUC adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds of CO_2 per megawatt-hour.

Senate Bill 1078: Renewable Electricity Standards

SB 1078 (September 12, 2002) required California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, the governor signed Executive Order (EO) S-14-08, which established the Renewable Portfolio Standard (RPS) target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. EO S-21-09 directed CARB to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23. In 2011, the State legislature adopted this higher standard in SB X1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

SB 350 (October 7, 2015) reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies toward a regional electricity grid, and improved infrastructure for electric vehicle charging stations.

Senate Bill 100: California Renewables Portfolio Standard Program

SB 100 (September 10, 2018) revised the RPS goals to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. The bill requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of

electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order S-01-07: Low Carbon Fuel Standard

EO S-01-07 was signed on January 18, 2007. The EO mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the EO established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in an implementation plan for the State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007, and was submitted to CARB for consideration as an "early action" item under AB 32. CARB adopted the LCFS on April 23, 2009.

The LCFS was subject to legal challenge in 2011. Ultimately, CARB was required to bring a new LCFS regulation for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS and new provisions designed to foster investments in the production of the low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The Office of Administrative Law approved the regulation on November 16, 2015. The regulation was last amended in 2019, and approved on May 27, 2020. The 2019 amendments provide clarification related to the Clean Fuel Reward program costs, credit transactions, fuels transactions and compliance reporting. Additional amendments have been proposed and are going to approval hearings in March 2024 (CARB 2024d).

Executive Order S-13-08: Climate Adaptation Strategy

EO S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in this EO, the 2009 California Climate Adaptation Strategy was adopted, which is the "… first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-48-18: Zero-Emission Vehicles

In January 2018, Governor Brown signed EO B-48-18 requiring all State entities to work with the private sector to have at least 5 million zero emission vehicles (ZEVs) on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This order also requires all State entities to continue to partner with local and regional governments to streamline the installation of

ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all state entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses, through the LCFS Program and recommend how to ensure affordability and accessibility for all drivers.

Executive Order N-79-20

In September 2020, Governor Newsom signed EO N-79-20, which sets the following goals for the State: 100 percent of in-State sales of new passenger cars and trucks shall be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the State shall be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and 100 percent of off-road vehicles and equipment in the State shall be zero-emission by 2035, where feasible.

4.2.2 Regional

SCAG Regional Transportation Plan/Sustainable Communities Strategy

The SCAG is the designated Metropolitan Planning Organization for the following six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The SCAG develops long-range regional transportation plans, including sustainable communities strategies pursuant to SB 375, growth forecast components, regional transportation improvement programs, regional housing needs allocations, and a portion of the SCAQMD air quality plans (SCAG 2023).

In April 2024, the SCAG Regional Council approved the 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which is entitled Connect SoCal. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies to increase mobility options and achieve a more sustainable growth pattern (SCAG 2024). The 2024 RTP/SCS supersedes the previous RTP/SCS that was adopted in 2020.

4.2.3 Local

City of Seal Beach General Plan

The City of Seal Beach prepared their General Plan in September 2003 in order to plan for the City's development. The 2013-2021 Housing Element as well as the updated Housing Element include the following goals to promote energy efficiency which would in turn reduce GHG emissions (City of Seal Beach 2003).

- Goal 6: Encourage more efficient energy use in residential developments.

- Policy 6a: Promote energy conservation through “green building” techniques that reduce water consumption, improve energy efficiency and lessen a building’s overall environmental impact.

5.0 ENERGY

5.1 ENVIRONMENTAL SETTING

Within Orange County, energy is provided in the form of petroleum fuel (gasoline and diesel), electricity, and natural gas. In 2022, approximately 13.6 billion gallons of gasoline and approximately 3.1 billion gallons of diesel fuel for motor vehicles was purchased within California (CDTFA 2024).

Southern California Edison (SCE) is the utility company that provides electricity to the City of Seal Beach. In 2022, for their standard power mix, approximately 33.2 percent of SCE's electricity came from renewable resources including solar, wind, geothermal, biomass and small hydroelectric sources. Additionally, approximately 45 percent of SCE's total electric power mix is from GHG-free sources, which includes nuclear and large hydroelectric sources of energy (SCE 2024). In 2022, Orange County consumed approximately 20,244 gigawatt hours (GWh) of electricity, 39 percent of which is attributed to residential land uses (CEC 2016a).

Natural gas is used for cooking, space heating, generating electricity, and as an alternative transportation fuel. Natural gas service is provided to the City by the Southern California Gas Company (SoCalGas). In 2022, Orange County consumed approximately 572 million therms of natural gas, 61 percent of which is attributed to residential land uses (CEC 2016b).

5.2 REGULATORY SETTING

The following includes the key federal, State, and local regulations related to energy resources that are applicable to the Project.

5.2.1 Federal

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission is an independent agency that regulates the interstate transmission of electricity, natural gas, and oil. The Federal Energy Regulatory Commission also reviews proposals to build liquefied natural gas terminals and interstate natural gas pipelines as well as licensing hydropower projects. Licensing of hydroelectric facilities under the authority of the Federal Energy Regulatory Commission includes input from State and federal energy and power generation, environmental protection, fish and wildlife, and water quality agencies.

National Energy Conservation Policy Act

The National Energy Conservation Policy Act (42 U.S. Code [USC] Section 8201 et seq.) serves as the underlying authority for federal energy management goals and requirements and is the foundation of most federal energy requirements. The National Energy Conservation Policy Act also established fuel economy standards for on-road motor vehicles in the United States. The National Highway Traffic Safety

Administration (NHTSA) is responsible for establishing additional vehicle standards and for revising existing standards. NHTSA and the USEPA are taking coordinated steps to enable the production of clean energy vehicles with improved fuel efficiency. NHTSA sets the Corporate Average Fuel Economy (CAFE) levels, which are rapidly increasing over the next several years to improve energy security and reduce fuel consumption. In March 2022, the NHTSA finalized CAFE standards for model years 2024 to 2026. The standards require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks by model year 2026. The NHTSA projects that the foregoing standards will avoid the consumption of approximately 234 billion gallons of gasoline between model years 2030 to 2050 (NHTSA 2022).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act (EISA) aimed to increase U.S. energy security, increased CAFE standards for motor vehicles, and included provisions related to energy efficiency, such as renewable fuel standards (RFS), appliance and lighting efficiency standards; and building energy efficiency standards. The EISA required increasing levels of renewable fuels to replace petroleum. The USEPA is responsible for developing and implementing regulations to ensure transportation fuel sold into the U.S. contains a minimum volume of renewable fuel.

The RFS programs regulations were developed in collaboration with refiners, renewable fuel products, and other stakeholders and were created under the Energy Policy Act of 2005. The RFS program established the first renewable fuel volume mandate in the U.S. As required under the EISA, the original RFS program required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. The RFS program was expanded in several ways that laid the foundation for achieving significant reductions of GHG emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of the nation's renewable fuels sector. The updated program is referred to as RFS2, and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline;
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- EISA established new categories of renewable fuel and set separate volume requirements for each one; and
- EISA required by the USEPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternate energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

Federal Vehicle Standards

The Energy Policy and Conservation Act of 1975 (EPCA) mandated that the NHTSA establish and implement a regulatory program for motor vehicle fuel economy, known as the CAFE program, to reduce

national energy consumption. As codified in Chapter 329 of Title 49 of the USC, as amended by the EISA, EPCA sets forth specific requirements concerning the establishment of average fuel economy standards for passenger cars and light trucks. The EISA, discussed above, amended the EPCA CAFE program requirements by providing the Department of Transportation additional rulemaking authority and responsibilities.

Consistent with its statutory authority in rulemaking to establish CAFE standards for model year 2017 and beyond, NHTSA developed two phases of standards. The first phase included final standards for model years 2017–2021. The second phase, covering model years 2022–2025, included standards that were not final, due to the statutory requirement that NHTSA set average fuel economy standards not more than five model years at a time. Rather, NHTSA wrote that those standards were augural, meaning that they represented its best estimate, based on the information available at that time, of what levels of stringency might be maximum feasible in those model years. In 2012, the agencies jointly adopted more stringent Phase 2 standards for light duty cars and trucks, which would cover model years 2017 through 2025. In August of 2016, the agencies adopted more stringent Phase 2 standards for medium- and heavy-duty vehicles, which would cover model years 2018 through 2027 for certain trailers and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks.

On March 31, 2020, NHTSA and the USEPA released a new rule, the final Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, setting CAFE and carbon dioxide emissions standards for model years 2021 through 2026 passenger cars and light trucks. The rule rolls back the 2012 standards for model years 2021 through 2026 for passenger cars and light trucks, which had required an average fleetwide fuel economy equivalent of 54.5 miles per gallon in model year 2025 with a 5 percent annual increase to an average fuel economy of about 40 miles per gallon in model year 2025 with annual increases of 1.5 percent starting in 2021. As a part of issuing the new SAFE rule, NHTSA issued a Final Environmental Impact Statement which found that the relaxed standards would result in increased petroleum consumption which in turn would result in increases to GHG and criteria pollutant emissions known to contribute to adverse health impacts (NHTSA 2020). The estimated increases from the roll back of the 2012 standards are expected to result in more than a billion metric tons additional climate pollution through 2040 as determined by calculating the difference from the reduction of 2 billion metric tons the 2012 rule was expected to accomplish compared to the standards of the 2020 rule (NHTSA 2020). On January 20, 2021, an EO was issued on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of the Part One Rule by April 2021 and review of the Part Two Rule by July 2021. In response to the Part One Rule, in December 2021, the Department of Transportation withdrew its portions of the SAFE rule. As a result, states are now allowed to issue their own GHG emissions standards and zero-emissions vehicle mandates. In addition, the Part Two Rule was adopted to revise the existing national GHG emission standards for passenger cars and light trucks through model year 2026. These standards are the strongest vehicle emissions standards ever established for the light-duty vehicle sector and will result in avoiding more than three billion tons of GHG emissions through 2050.

Inflation Reduction Act of 2022

The Inflation Reduction Act (IRA) of 2022 is considered the most ambitious climate law in U.S. history, and is intended to reduce GHG emissions, help build a clean economy, reduce energy costs for Americans, and advance environmental justice. With funding from the IRA, the USEPA has launched a network of clean energy financing and provided grant funding for climate pollution reduction programs (USEPA 2024c).

5.2.2 State

California Public Utilities Commission

The CPUC is a State agency created by a constitutional amendment to regulate privately-owned utilities providing telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation services and in-State moving companies. The CPUC is responsible for ensuring that California utility customers have safe, reliable utility services at reasonable rates, while protecting utility customers from fraud. The CPUC regulates the planning and approval for the physical construction of electric generation, transmission, or distribution facilities, and local distribution pipelines of natural gas.

California Energy Code

Compliance with the California Energy Code (CCR Title 24, Part 6, California's Energy Efficiency Standards) and Title 20, Public Utilities and Energy, standards must occur for all new buildings constructed in California. These efficiency standards apply to new construction of both residential and nonresidential (i.e., maintenance buildings and pump station buildings associated with the Program) buildings, and they regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit processes, and local government agencies may adopt and enforce energy standards for new buildings provided that these standards meet or exceed those provided in the Title 24 guidelines.

Warren-Alquist Energy Resources Conservation and Development Act

Initially passed in 1974 and amended since, the Warren-Alquist Energy Resources Conservation and Development Act (Warren-Alquist Act) created the California Energy Commission (CEC), California's primary energy and planning agency. The seven responsibilities of the CEC are forecasting future energy needs, promoting energy efficiency and conservation through setting standards, supporting energy-related research, developing renewable energy resources, advancing alternative and renewable transportation fuels and technologies, certifying thermal power plants 50 megawatts or larger, and planning for and directing State response to energy emergencies. The CEC regulates energy resources by encouraging and coordinating research into energy supply and demand problems to reduce the rate of growth of energy consumption. Additionally, the Warren-Alquist Act acknowledges the need for renewable energy resources and encourages the CEC to explore renewable energy options that would be in line with environmental and public safety goals (Warren-Alquist Act Public Resources Code (PRC) section 25000 et seq.)

California Integrated Energy Policy

SB 1389 requires the CEC to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the State's economy, and protect public health and safety." (PRC Section 25301(a)). The CEC adopts an Integrated Energy Policy Report every two years and an update every other year. The most recent version is the 2022 Integrated Energy Policy Report Update (CEC 2022).

California Renewables Portfolio Standard

California's RPS was initially established in 2002 by SB 1078, with the initial requirement that 20 percent of electricity retail sales be served by renewable resources by 2017. The program was accelerated in 2006 under SB 107, which required that the 20 percent mandate be met by 2010. In April 2011, SB 2 was signed into law, requiring electricity retailers in the State to procure 33 percent of their energy sources from renewable energy sources by the end of 2020 (CPUC 2021). In addition, SB 350, passed in 2015, directs California utilities to further increase the amount of renewable energy delivered to customers to 50 percent by 2030.

CPUC implements and administers RPS compliance rules for California's retail sellers of electricity, which include large and small investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators. The CEC is responsible for the certification of electrical generation facilities as eligible renewable energy resources and adopting regulations for the enforcement of RPS procurement requirements of public owned utilities.

5.2.1 Local

City of Seal Beach General Plan

The City of Seal Beach prepared their General Plan in September 2003 in order to plan for the City's development. The 2013-2021 Housing Element as well as the updated Housing Element include the following goals to promote energy efficiency (City of Seal Beach 2003).

- Goal 6: Encourage more efficient energy use in residential developments.
    - Policy 6a: Promote energy conservation through "green building" techniques that reduce water consumption, improve energy efficiency and lessen a building's overall environmental impact.

6.0 METHODOLOGY AND MODELING PARAMETERS

The following discussion explains the methodology and modeling parameters that will be used to estimate air quality and GHG emissions, potential health risks, and energy demand associated with implementation of the Project.

6.1 CRITERIA POLLUTANT AND GHG EMISSION METHODS

The California Emissions Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod quantifies direct GHG emissions, such as construction and operational activities and vehicle use, and indirect emissions, such as energy use, solid waste disposal, vegetation planting and/or removal, and water use. Further, CalEEMod identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

CalEEMod was developed for the California Air Pollution Control Officers Association in collaboration with the California Air Districts. Default data (e.g., emission factors, trip lengths, meteorology, source inventory) have been provided by the various California Air Districts to account for local requirements and conditions. CalEEMod is a comprehensive tool for quantifying air quality impacts from land use projects located throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable, such as preparing CEQA or National Environmental Policy Act documents, conducting pre-project planning, and, verifying compliance with local air quality rules and regulations, etc.

CalEEMod Version 2022.1.1.28 was used to estimate construction and operational impacts of the Project.

6.1.1 Modeling Assumptions

Impacts resulting from implementation of the Project are assessed at a programmatic level because specific information for buildout of each Housing Opportunity Site is not available at this time. In the absence of specific thresholds of significance for programmatic analyses, this analysis broadly evaluates Project consistency with the applicable air quality plan (2022 AQMP) and GHG reduction plans (SCAG's RTP/SCS and CARB's 2022 Scoping Plan). In addition, short-term construction emissions of criteria pollutants and GHGs are estimated based on a reasonably foreseeable subcomponent of the Project, and long-term operational emissions are estimated assuming full buildout of the Project.

Construction at Housing Opportunity Site 4

Construction emissions were estimated for the most emissions-intensive Project component, which is expected to be buildout of Housing Opportunity Site 4 as this site could accommodate the most housing

units (see Table 1). At maximum buildout, Housing Opportunity Site 4 can accommodate 552 high-density residential units at a density of 46 dwelling units per acre.

Construction was assumed to begin in early 2025. The construction schedule, off-road equipment types and usage, and worker vehicle trips were left as model default values. Additional haul truck trips were added (10 one-way trips per day during demolition and 15 one-way trips per day during site preparation) to account for the potential off-hauling of demolished building materials and/or soil import or export. It was assumed that 100 percent of off-site worker, vendor, and haul truck trips would occur on paved roadways consistent with defaults for Orange County. The CalEEMod results are included in Appendix A. Daily emissions were quantified for the construction of Housing Opportunity Site 4 and assessed in comparison to the SCAQMD significance thresholds. In addition, a qualitative assessment of construction of all Project components is included in the analysis.

Operation of Full Project Buildout

Buildout of the Project would generate air pollutant and GHG emissions from on-road vehicle travel (mobile sources), consumer products and landscaping (area sources), and natural gas combustion (energy sources). Operational emissions associated with the Project were estimated for the year 2029, estimated buildout of the Project, using CalEEMod and compared to the SCAQMD thresholds of significance. The trip generation rate for each land use was updated to be consistent with the Project-specific VMT Assessment prepared by Stantec Consulting Inc, and the trip lengths and purposes were left as CalEEMod defaults. The CalEEMod results are included in Appendix A.

6.2 ENERGY CALCULATION METHODS

Project energy demand during construction and operations was determined based on the modeling that was conducted for the Project using CalEEMod and using vehicle and equipment emission factors from the CARB's EMFAC2021 (v1.0.2) and EMFAC OFFROAD2021 (v1.0.5). The energy calculations are included as Appendix B.

Construction energy use was calculated for the most energy-intensive future development under the Project, which is expected to be buildout of Housing Opportunity Site 4 as this site could accommodate the most housing units. At maximum buildout, Housing Opportunity Site 4 can accommodate 552 high-density residential units at a density of 46 dwelling units per acre. For operation, energy-use was calculated for 1,773 residential units.

7.0 AIR QUALITY IMPACT ANALYSIS

7.1 CEQA GUIDELINES

According to the CEQA Guidelines' Appendix G Environmental Checklist, the following questions are analyzed and evaluated to determine whether impacts related to air quality are considered to be significant environmental effects.

Where available, the significance criteria established by the applicable air quality management or air pollution district may be relied upon to make the following determinations.

Would the Project:

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

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?

c) Expose sensitive receptors to substantial pollutant concentrations?

d) Result in other emissions (such as those leading to odors) affecting a substantial number of people?

7.1.1 Thresholds of Significance

Pursuant to Section 15064(b) of the CEQA Guidelines, the final determination of whether a project is significant is within the purview of the Lead Agency. The SCAQMD has adopted mass daily thresholds of significance for NOx, VOC, PM_{10}, $PM_{2.5}$, SOx, CO, and Pb to determine the significance of a project's potential air quality impacts. Table 5, below, presents the mass daily thresholds applied to the Project and used for purposes of this analysis.

Table 5. SCAQMD Air Quality Significance Thresholds

Mass Emissions Thresholds	Emissions (lbs/day)						
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	Pb
Construction	75	100	550	150	150	55	3
Operation	55	55	550	150	150	55	3

Notes: N/A = not applicable
Source: SCAQMD 1993.

The SCAQMD has also developed Localized Significance Thresholds (LSTs) for NOx, PM_{10}, $PM_{2.5}$, and CO. The LSTs are intended to represent the maximum emissions from a project that would not cause or contribute to an exceedance of the CAAQS or NAAQS, and were developed based on the ambient

concentrations of each criteria pollutant at specific source receptor areas. It is noted that the use of LSTs is a voluntary approach to analysis and may implemented at the discretion of local agencies (SCAQMD 2008a). SCAQMD only recommends the use of LSTs for projects under 5 acres in size. Accordingly, the LSTs are not applicable for the Project, which includes approximately 44.25 acres of development space.

According to SCAQMD, a significant health impact would occur if a project would result in an incremental cancer risk that exceeds 10 persons in one million, or the chronic and acute risks exceed a calculated Hazard Index value of 1.0.

7.2 AIR IMPACT ANALYSIS

Impact AIR-1 Conflict with or obstruct implementation of the applicable air quality plan?

Impact Analysis

Air districts are required to prepared air quality plans to identify strategies to bring regional emissions into compliance with federal and State air quality standards. As noted previously, the SCAB is designated as a non-attainment area for both the federal and State standards for O_3 and $PM_{2.5}$, the State standard for PM_{10}, and the federal standard for lead (SCAQMD 2016a). Accordingly, SCAQMD, in collaboration with CARB and SCAG, has prepared air quality plans, including the 2022 AQMP, to achieve attainment of the applicable ozone and PM standards. The SCAG's RTP/SCS is also considered an applicable air quality plan. Project consistency with the SCAG RTP/SCS is evaluated in Table 12.

The 2022 AQMP was adopted in December 2022 and represents the most updated regional blueprint for achieving the federal air quality standards and minimizing public health concerns related to air quality. The 2022 AQMP particularly focuses on attainment of the 2015 8-hour ozone NAAQS. The Project would be considered to conflict with the 2022 AQMP if it would:

1. Contribute to exceedances and/or delay attainment of the ozone standards;
2. Result in an exceedance of the planned growth within the project area; or
3. Interfere with implementation of the ozone reduction measures established in the AQMP.

With regard to Item 1, air districts establish emissions thresholds to demonstrate the point at which a project would be considered to increase the regional air quality violations. As described in further detail under Impact AIR-2, construction and operations of the residential development facilitated by the Project is anticipated to exceed the threshold of significance established by the SCAQMD for VOC emissions even with implementation of Mitigation Measures AQ-1 and AQ-2. VOC is an ozone precursor and, by exceeding the VOC threshold of significance, cumulative buildout of the Project may delay attainment of the ozone AAQS.

With regard to Item 2, the population projections in the SCAQMD's 2022 AQMP are based on the regional growth projections included in the SCAG's 2020 RTP/SCS (SCAQMD 2022). According to the Demographics and Growth Forecast Technical Report prepared for the 2020 RTP/SCS, the City of Seal Beach housing stock is projected to grow from 13,100 households in 2016 to 13,300 households in 2045 (SCAG 2020). The City's household growth projected in the 2020 RTP/SCS, and therefore in the 2022 AQMP, is less than what is planned in the Housing Element, which considers up to 1,773 new residential units by 2029. Implementation of the Project would result in household and population growth that exceeds the projections in the 2022 AQMP and, as a result, the Project is expected to result in emissions that are higher than what was planned for the City in the 2022 AQMP.

With regard to Item 3, the 2022 AQMP notes that attaining the 2015 8-hour ozone standard by 2037 will require both continuation and acceleration of existing ozone reduction strategies, as well as deployment of new strategies. Proposed measures to reduce ozone include stationary and mobile source NOx reduction strategies, supplemented by strategic VOC emission reductions. The following ozone reduction measures identified in the 2022 AQMP are relevant to residential land uses:

- R-CMB-01: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Water Heating
- R-CMB-02: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Space Heating
- R-CMB-03: Emissions Reductions from Residential Cooking Devices
- R-CMB-04: Emission Reductions from Replacement with Zero Emission or Low NOx Appliances – Residential Other Combustion Sources
- CTS-01: Further Emission Reductions from Coatings, Solvents, Adhesives, and Lubricants

Each of the foregoing measures are intended for implementation at the local or regional government level, rather than the project level. For example, the 2022 AQMP notes that each measure shall be implemented by (1) adopting a new rule to require compliance and (2) offering incentive funds to facilitate adoption of low-emissions technologies. Because the measures are not directly applicable to the Project, development facilitated under the Project would not interfere with implementation of the air quality improvement strategies established in the AQMP.

This EIR includes a discussion of the residential component of the ORCC Specific Plan Project based on the site location and proposed buildout of the 167 residential units that are included within the City's site inventory to meet its RHNA requirements. The residential components of the ORCC Specific Plan would increase the total residential units to 1,773 and would further increase the Project's household and population growth that exceeds the projections in the 2022 AQMP. Additionally, the impacts from construction of a larger residential development were evaluated within Table 3.2-5 below. Additionally, operational impacts from the total 1,773 units were evaluated within Table 3.2-6 and 3.2-7. Emissions were found to exceed thresholds and therefore, the 167 residential units proposed under the ORCC

Specific Plan Project were considered within the analysis of this Project. Specific impact findings associated with the development of the ORCC Specific Plan Project are being evaluated in a standalone project-specific EIR.

Conclusion

Because the Project could contribute to a delay in attainment of the ozone AAQS and would result in an exceedance of the planned growth within the City, the Project could conflict with or obstruct implementation of the applicable air quality plan. Even with the implementation of mitigation, the impact remains significant and unavoidable.

Level of Significance Before Mitigation

Significant Impact.

Mitigation Measures

MM AQ-1. **Quantify Construction Criteria Pollutant Emissions.** Prior to discretionary approval by the City for development projects subject to CEQA review, project applicants shall prepare and submit a technical air quality assessment estimating project construction-related criteria pollutant emissions to the City for review and approval. The evaluation shall be prepared in accordance with SCAQMD guidance. If construction-related criteria pollutant emissions are determined to have the potential to exceed the SCAQMD regional and localized thresholds of significance, emission reduction measures shall be incorporated into the project to the maximum extent feasible, subject to the discretion of the City. Acceptable options for reducing emissions may include:

- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 emission limits for engines above 50 horsepower.
- Require all paints and architectural coatings to be super-compliant VOC content (0 grams/Liter [g/L] to 10 g/L). If VOC emissions still exceed thresholds, then the applicant may elect to prohibit architectural coating activities during summer months (June, July, and August) when ozone formation peaks.

Regardless of the results of the emissions modeling, the following best practices shall be implemented throughout the duration of all construction activity:

- All off-road equipment operating at the construction site must be maintained in proper working condition according to manufacturers' specifications.
- Idling shall be limited to 5 minutes or less in accordance with the Off-Road Diesel Fueled Fleet Regulation as required by CARB.
- Clear Signage regarding idling restrictions shall be placed at the entrances to the construction site.

- Portable equipment over 50 horsepower must have either a valid SCAQMD Permit to Operate (PTO) or a valid statewide Portable Equipment Registration Program (PERP) placard and sticker issued by CARB.
- Water all active construction areas at least three times daily, or as often as needed to control dust emissions. Watering should be sufficient to prevent airborne dust from leaving the site.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- Pave, apply water three times daily or as often as necessary to control dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.

MM AQ-2. **Quantify Operational Criteria Pollutant Emissions.** Prior to discretionary approval by the City for development projects subject to CEQA review, project applicants shall prepare and submit a technical air quality assessment estimating project operational-related criteria pollutant emissions to the City for review and approval. The evaluation shall be prepared in accordance with SCAQMD guidance. If operational-related criteria pollutant emissions are determined to have the potential to exceed the SCAQMD thresholds of significance, emission reduction measures shall be incorporated into the project to the maximum extent feasible, subject to the discretion of the City. Acceptable options for reducing operational emissions may include, but are not limited to, the following:

- Prohibition of natural gas hearths.
- Installation of solar water heaters or tankless water heaters.
- Exceeding Title 24 energy standards.
- Constructing Level 2 EV charging stations for multi-family developments and pre-wiring to allow for Level 2 EV charging stations in single-family residential garages.
- Require all paints and architectural coatings to be super-compliant VOC content (0 to 10 g/L).

Level of Significance After Mitigation

Significant and Unavoidable Impact.

Impact AIR-2 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?

Impact Analysis

In developing thresholds of significance for air pollutants, the SCAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If an individual project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. As noted previously, the Project does not propose any individual development projects at this time but, rather, would facilitate the future development of up to 1,773 residential units as identified in the Housing Element.

Construction Emissions

Construction activities facilitated by the Project would result in emissions of criteria pollutants due to the use of off-road equipment, heavy-duty haul trucks, and employee commutes to and from the construction sites. In addition, fugitive dust would be generated from earth-moving activities. Emissions from construction-related activities are generally short-term in duration but may still cause adverse air quality impacts.

Specific buildout details of each Project component are not available at this time; accordingly, this analysis presents estimated construction emissions associated with the most emissions-intensive component of the Project, which entails buildout of Housing Opportunity Site 4. Housing Opportunity Site 4 totals 27 acres, 12 acres of which can be developed, and was modeled to accommodate 552 multi-family units, based on the maximum allowable buildout. The estimated criteria pollutant emissions associated with construction of Housing Opportunity Site 4 are presented in Table 6.

Table 6. Construction of Housing Opportunity Site 4 – Criteria Pollutant Emissions

	Emissions (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Construction of Housing Opportunity Site 4	166.23	13.78	36.26	0.04	6.14	1.77
SCAQMD Threshold of Significance	**75**	**100**	**550**	**150**	**150**	**55**
Exceed Threshold?	***Yes***	***No***	***No***	***No***	***No***	***No***

Source: Appendix A.

As shown above, buildout of Housing Opportunity Site 4, which is expected to be the most emissions-intensive component of the Project, may generate construction emissions that exceed SCAQMD mass daily thresholds for VOC. These emission calculations are based on CalEEMod default factors based on land use type and size which are generally more conservative than project-specific inputs. However,

performing more specific emissions calculations for any of the Housing Opportunity Areas or the MSSP to determine significance on a project site by project site basis would be speculative.

Future housing development facilitated by the Project would be subject to discretionary permits and future CEQA review. However, since the largest Housing Opportunity site exceeds SCAQMD thresholds, other sites may result in potentially significant emissions due to a more intensive construction timeline, additional demolition and grading, or additional construction trips. Under Mitigation Measure AQ-1, each component facilitated by the Project would be required to quantify construction emissions and, if emissions exceed the applicable thresholds, the component would reduce emissions to the maximum extent feasible, including through the use of super-compliant VOC coatings. While Mitigation Measure AQ-1 would reduce construction exhaust emissions, potential future development projects accommodated under the Project, both individually and cumulatively, could still exceed the SCAQMD significance thresholds for construction. As a result, the cumulative impact from construction of the Project remains significant and unavoidable.

Operational Emissions

Implementation of the Project and the residential components of the ORCC Specific Plan Project would result in future development of up to 1,773 new residential units. Emissions during operation of the Project would be generated primarily from resident vehicle trips to and from the sites (mobile sources). In addition, the buildout facilitated by the Project would generate emissions from area sources, which include the use of fireplaces, consumer products, landscaping equipment, and others. Estimated operational emissions from cumulative Project buildout are presented in Table 7. As shown in the table, full buildout of the residential units facilitated by the Project would result in VOC emissions that exceed the applicable SCAQMD threshold. Therefore, Mitigation Measure AQ-2 is required.

As required by Mitigation Measure AQ-2, each component facilitated by the Project would be required to quantify their individual operational emissions and, if emissions exceed the applicable thresholds, the component would reduce emissions to the maximum extent feasible. For this example, architectural coatings were limited to those with a VOC content less than 10 grams per liter. The emissions that would occur from operations with the implementation of mitigation are presented in Table 8.

Table 7. Project Operations – Criteria Pollutant Emissions (Unmitigated)

Source	Emissions (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Mobile	28.4	22.3	253	0.70	71.0	18.3
Area	50.0	0.00	101	<0.005	0.05	0.04
Energy	0.36	6.08	2.59	0.04	0.49	0.49
Total[1]	*79.0*	*28.3*	*356*	*0.75*	*71.5*	*18.8*
SCAQMD Threshold of Significance	**55**	**55**	**550**	**150**	**150**	**55**
Exceed Threshold?	***Yes***	***No***	***No***	***No***	***No***	***No***

Source: Appendix A.

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$

[1] Totals may not appear to sum due to rounding.

Table 8. Project Operations – Criteria Pollutant Emissions (Mitigated)

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile	28.6	22.3	253	0.70	71.0	18.3
Area	40.7	0.00	0.00	0.00	0.00	0.00
Energy	0.33	5.61	2.39	0.04	0.45	0.45
Total	*69.6*	*27.9*	*255*	*0.74*	*71.45*	*18.7*
SCAQMD Threshold of Significance	**55**	**55**	**550**	**150**	**150**	**55**
Exceed Threshold?	***Yes***	***No***	***No***	***No***	***No***	***No***

Source: Appendix A.

As shown above, even with mitigation, operational emissions of VOC would exceed the threshold of significance. While Mitigation Measure AQ-2 would reduce operational emissions, cumulative future development projects accommodated under the Project could still exceed the SCAQMD significance thresholds. As a result, the cumulative impact from operations of the Project remains significant and unavoidable.

This EIR includes a discussion of the residential component of the ORCC Specific Plan Project based on the site location and proposed buildout of the 167 residential units that are included within the City's site inventory to meet its RHNA requirements. The impacts from construction of a larger residential development were evaluated within Table 3.2-5. Additionally, operational impacts from the total 1,773 units were evaluated within Tables 3.2-6 and 3.2-7. Therefore, the 167 residential units proposed under the ORCC Specific Plan Project were considered within the analysis of this Project. Specific impact findings associated with the development of the ORCC Specific Plan Project are being evaluated in a standalone project-specific EIR.

Conclusion

As shown in Table 6, construction emissions of the most intensive Project component would exceed the applicable threshold of significance for VOC emissions. Even with implementation of Mitigation Measure AQ-1, a significant impact may occur. Additionally, as presented in Table 8, even with implementation of Mitigation Measure AQ-2, operational criteria pollutant emissions could exceed the applicable thresholds of significance. Therefore, the Project could result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or State ambient air quality standard, and the impact would be significant and unavoidable.

Level of Significance Before Mitigation

Significant Impact.

Mitigation Measures

Mitigation Measure AQ-1 and AQ-2 are required.

Level of Significance After Mitigation

Significant and Unavoidable Impact.

Impact AIR-3 Expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis

As discussed above, the Project itself does not propose any development; however, the Project would facilitate future development of up to 1,773 residential units throughout the City. The candidate housing sites were evaluated at a programmatic level, and no air modeling was conducted for this analysis.

This discussion qualitatively addresses whether implementation of the Project would expose sensitive receptors to construction-generated fugitive dust (PM_{10}), Valley fever spores, naturally occurring asbestos (NOA), construction-generated DPM, or operational related TACs.

According to CARB, some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. As noted previously, the identified Housing Opportunity Sites, Main Street Program, and the residential component of the ORCC Specific Plan Project contain and are located adjacent to various sensitive uses, primarily single- and multi-family residences.

Construction Emissions

During construction associated with the Project, the potential exists for emissions of fugitive dust, Valley fever, NOA, and DPM to be released. Each TAC is discussed separately below.

Fugitive Dust and Valley Fever

Fugitive dust would be generated during construction facilitated by the Project. As noted previously, Valley fever is an infection caused by inhalation of the spores of a fungus, *C. immitis*, that lives in soil. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

Most of the fugitive dust generated during construction activities would remain localized and would be deposited near each construction site. Additionally, SCAQMD Rule 403, Fugitive Dust, limits the discharge of PM emissions and establishes Best Available Control Measures that are applicable to all construction activities (SCAQMD 2005). Consistent with the SCAQMD Best Available Control Measures, construction of each component facilitated by the Project would be required to use water trucks to stabilize soils. In addition, the City of Seal Beach is generally built out; therefore, much of the development facilitated by the Project would occur in urban areas where conditions are generally not dry, dusty, or windy. Furthermore, as required by Mitigation Measure AQ-2, development of each component subject to discretionary approval shall evaluate their individual construction emissions. If the component is determined to result in PM emissions that exceed the SCAQMD thresholds, then minimization measures would be incorporated to reduce PM emissions to the maximum extent feasible. Overall, construction activities associated with future development facilitated by the Project would not result in sensitive receptor exposure to substantial concentrations of fugitive dust, including dust that may contain *C. immitis* spores.

Asbestos

Construction in areas of rock formations that contain NOA could release asbestos to the air and pose a health hazard. A review of the map with areas more likely to have rock formations containing NOA in California indicates that there is no known asbestos in the City of Seal Beach (USGS 2011). Therefore, construction of the Project would not expose sensitive receptors to NOA.

Many of the components of the Project would entail demolition of existing structures in order to accommodate new housing. For buildings constructed prior to 1980, the Code of Federal Regulations (29 CFR 1926.1101) states that all thermal system insulation and surface materials must be designated as "presumed asbestos containing material" unless proven otherwise. ACBMs could include, but are not limited to, plaster, ceiling tiles, thermal systems insulation, floor tiles, vinyl sheet flooring, adhesives, and roofing materials. Compliance with SCAQMD Rule 1403, Asbestos Emissions from Demolition/Renovation Activities, would ensure that any ACBMs encountered during construction activities are handled appropriately, and risks to existing sensitive receptors would not occur.

Localized Significance Thresholds

SCAQMD has established localized significance thresholds for NOx, CO, PM_{10}, and $PM_{2.5}$ to determine the risk of elevated levels of ozone precursors and particulate matter at nearby receptors. Thresholds were established based on an individual project's size, location, and distance to receptors. However, SCAQMD established in the PEIR for the 2016 AQMP that the LST screening methodology is not applicable to regional projects such as local general plans, specific plans, or air quality plans since the individual project plans are typically not known at plan adoption (SCAQMD 2016b). Therefore, since the analysis is evaluating the buildout of the Housing Element, a localized construction analysis would be speculative for individual projects. However, with implementation of Mitigation Measure AQ-1, the Project would be required to quantify the individual construction emissions and reduce as feasible below SCAQMD thresholds.

Diesel Particulate Matter

Exposure to DPM from diesel vehicles and off-road construction equipment can result in health risks to nearby sensitive receptors. Pollutant concentrations are typically highest near sources of emissions and dissipate with distance. Thus, the sensitive receptors in and adjacent to each of the Housing Opportunity Sites would be the most susceptible to adverse health effects resulting from construction-related DPM emissions. The actual level of risk would depend on a variety of factors that can only be determined once the specifics of a project are known. Since the details regarding future construction activities are not known at this time, including phasing of future individual projects, construction duration and phasing, and preliminary construction equipment, preparation of a meaningful HRA is not possible at the plan level. Rather, Mitigation Measure AQ-3 is required to assess the potential impact associated with exposing sensitive receptors to substantial concentration of DPM. Since health risks are a factor of duration of exposure, source emission rates, and distance of the receptor, an individual's health risks during construction may still be significant and unavoidable.

Operational Emissions

The greatest potential for exposure to TACs during long-term operations is from the use of heavy-duty diesel trucks and stationary generators that use diesel fuel. The Project would facilitate development of up to 1773 residential units throughout the City. The majority of vehicle trips associated with the Project would be from residents and, as a result, future development associated with the Project would result in very few diesel truck trips. Additionally, the residential units developed under the Project are not expected to include any stationary generators. Should a generator be proposed as part of a future development under the Project, the project would be required by SCAQMD to evaluate the impacts of the generator as part of obtaining a Permit to Operate. For these reasons, once operational, the Project would not be expected to expose nearby sensitive receptors to substantial amounts of TACs.

During operations, dust emissions would be negligible because most of the Project area would be occupied by buildings, pavement, and landscaped areas. This would preclude the possibility of Project operations resulting in exposure to fugitive dust emissions and *C. immitis* spores that may result in Valley fever infection.

As noted above, SCAQMD has established localized significance thresholds for NOx, CO, PM_{10}, and $PM_{2.5}$ to determine the risk of elevated levels of ozone precursors and particulate matter at nearby receptors. A localized operational analysis would be speculative for individual projects. However, with implementation of Mitigation Measure AQ-2, the Project would be required to quantify the individual operational emissions and reduce as feasible below SCAQMD thresholds.

This EIR includes a discussion of the residential component of the ORCC Specific Plan Project based on the site location and proposed buildout of the 167 residential units that are included within the City's site inventory to meet its RHNA requirements. The impacts from construction and operation of the residential component of the ORCC Specific Plan may result in impacts to health risks. Construction of the residential component of the ORCC Specific Plan Project would still be required to comply with all SCAQMD applicable rules and regulations pertaining to dust control and permitting and therefore, the 167

residential units proposed under the ORCC Specific Plan Project were considered within the analysis of this Project. Specific impact findings associated with the development of the ORCC Specific Plan Project are being evaluated in a standalone project-specific EIR.

Conclusion

Based on the analysis above, during construction, the Project could expose sensitive receptors to substantial pollutant concentrations. With implementation of Mitigation Measure AQ-3, the impact would be reduced to the maximum extent feasible. However, the impact may remain significant and unavoidable.

Level of Significance Before Mitigation

Significant Impact.

Mitigation Measures

Mitigation Measures AQ-1 and AQ-2 are required.

MM AQ-3. **Construction Health Risk Assessment.** Prior to future discretionary project approval for any component that would involve construction lasting more than 2 months and within 1,000 feet of sensitive receptors, the project applicant shall submit a construction health risk assessment (HRA) to the City for review and approval. The level of detail required for the HRA is described below:

A quantitative health risk assessment shall be prepared in accordance with SCAQMD and OEHHA guidance to identify the potential for increased cancer and non-cancer health risks. If the health risks do not exceed the applicable thresholds, further mitigation is not necessary. If the resultant health risks are determined to exceed SCAQMD thresholds of significance, the applicant shall implement measures to reduce DPM exhaust emissions and associated risks to below the applicable thresholds. Methods may include requiring the use of off-road equipment engines that meet or exceed CARB's Tier 4 Final engine emissions standards for off-road equipment exceeding 50 horsepower (hp).

Any emissions reduction measures identified in the HRA shall be incorporated into the site development plan as a component of the project. Prior to issuance of any construction permit, the construction contractor shall ensure that all construction plans submitted to the Community Development Department clearly show incorporation of all applicable mitigation measures.

Level of Significance After Mitigation

Significant and Unavoidable Impact.

Impact AIR-4 Result in other emissions (such as those leading to odors) affecting a substantial number of people?

Impact Analysis

While offensive odors rarely cause any physical harm, they can still be unpleasant, leading to distress among the public and often generating citizen complaints. The occurrence and severity of odor impacts depends on numerous factors, including nature, frequency, and intensity of the source, the wind speed and direction, and the sensitivity of the receptor.

Construction activities facilitated by the Project could result in short-term odorous emissions from diesel exhaust associated with diesel-fueled equipment. However, these emissions would be intermittent and would dissipate rapidly from the source. Construction of all components facilitated by the Project would also be required to comply with all applicable SCAQMD rules and regulations, particularly associated with permitting of air pollutant sources. Compliance with the aforementioned regulations would help to minimize emissions, including emissions leading to odors.

The SCAQMD has identified land uses commonly subject to odor complaints. These land uses include agriculture (farming and livestock), wastewater treatment, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The Project entails development of residential uses and would not involve any of the land uses identified to result in odor complaints nor involve any components with the potential to create objectionable odors affecting a substantial number of people.

Finally, SCAQMD regulates objectionable odors through Rule 402, Nuisance (SCAQMD 1976). Thus, although not anticipated, if odor complaints are made during implementation of the Project, the SCAQMD would ensure that such odors are addressed, and any potential odor effects are minimized or eliminated.

This EIR includes a discussion of the residential component of the ORCC Specific Plan Project based on the site location and proposed buildout of the 167 residential units that are included within the City's site inventory to meet its RHNA requirements. Residential developments are not land uses commonly subject to odor complaints and all developments within SCAQMD would be subject to rules and regulations pertaining to odor. Therefore, the 167 residential units proposed under the ORCC Specific Plan Project were considered within the analysis of this Project. Specific impact findings associated with the development of the ORCC Specific Plan Project are being evaluated in a standalone project-specific EIR.

Conclusion

The Project would not result in other emissions, such as those leading to odors, affecting a substantial number of people. Therefore, the impact would be less than significant.

Level of Significance Before Mitigation

Less Than Significant Impact.

Air Quality Impact Analysis

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less Than Significant Impact.

8.0 GREENHOUSE GAS IMPACT ANALYSIS

8.1 CEQA GUIDELINES

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines:

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

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

8.1.1 Thresholds of Significance

After the adoption of AB 32, the SCAQMD established a GHG working group to develop thresholds of significance for the analysis of GHG emissions. In December 2008, the SCAQMD Board adopted the Interim CEQA Greenhouse Gas Significance Threshold, which established a screening threshold of 10,000 $MTCO_2e$/year for industrial projects and 3,000 $MTCO_2e$/year for residential and commercial projects (SCAQMD 2008b). Additionally, the SCAQMD working group recommended that instead of an individual construction GHG threshold, construction emissions should be amortized over the life of the project (30 years) and evaluated with a project's annual, operational GHG emissions.

8.2 GHG IMPACT ANALYSIS

Impact GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact Analysis

The Project does not propose any individual development projects at this time but, rather, would facilitate the future development of up to 1,606 residential units as identified in the Housing Element. Buildout of the future components facilitated by the Project would generate GHG emissions during construction and operations, as discussed in further detail below.

Construction Emission Inventory

GHG emissions would be generated during construction from off-road equipment and on-road vehicle exhaust from worker vehicle trips and hauling truck trips. Table 8, below, presents a summary of the estimated GHG emissions that would result from construction of Housing Opportunity Site 4, which is

expected to be the most emissions-intensive component of the Project. The table also includes an estimate of the total GHG emissions associated with cumulative buildout of the entire Project, assuming that construction of every Project unit released the same volume of GHG. To be consistent with SCAQMD's GHG emissions policy, the table also presents construction emissions amortized over a 30-year Project lifetime.

Table 9. Estimated Annual Construction GHG Emissions

Construction Year	Emissions ($MTCO_2e$ per year)
2025	863.92
2026	405.74
Total for Housing Opportunity Site 4	*1,269.70*
Total for Full Project Buildout[1]	4,078
Amortized Construction Emissions from Full Project Buildout	135.94

1. To estimate GHG emissions from Full Project Buildout, the emissions from construction of 552 units at Housing Opportunity Site 4 were scaled up on a unit-wise basis to 1773 units.

Source: Appendix A.

The amortized construction emissions are added to the annual operational emissions and compared to the SCAQMD threshold of significance below.

Operational Emission Inventory

Operational, or long-term, emissions occur over the life of the Project. Operational activities of the residential components facilitated by the Project would generate GHG emissions primarily from mobile sources. Operational GHG emissions from cumulative Project buildout, as well as amortized construction emissions, are shown in Table 10.

Table 10. Project Operations – Greenhouse Gas Emissions (Unmitigated)

Source	Emissions ($MTCO_2e$ per year)
Mobile	11,722
Area	30.6
Energy	2,890
Water	583
Waste	309
Refrigerants	2.12
Operation Subtotal	*15,637*
Amortized Construction Emissions from Full Project Buildout	136

Source	Emissions ($MTCO_2e$ per year)
Project Total	**15,773**
SCAQMD Thresholds of Significance	**3,000**
Exceeds Threshold?	**Yes**

Source: Appendix A.

As shown in the table, full buildout of the residential units facilitated by the Project would result in GHG emissions that exceed the SCAQMD threshold of significance. Therefore, Mitigation Measure GHG-1, which provides a menu of GHG reduction measures, is required. Table 11 presents the Project's GHG emissions with application of the following GHG reduction measures:

- Provide electric vehicle charging infrastructure;
- Provide bicycle parking;
- Provide traffic-calming measures;
- Exceed Title 24 Building Energy Efficiency Standards by 10 percent;
- Require energy efficient appliances;
- Establish on-site solar energy systems sufficient to meet 50 percent of each structure's electricity demand;
- Install alternative water heater in place of gas storage tank water heater;
- Install electric space heater in place of natural gas heaters;
- Install electric ranges in place of gas ranges
- Require low-flow water fixtures;
- Replace gas-powered landscape equipment with zero-emission landscape equipment; and
- Prohibit the installation of fireplaces.

Table 11. Project Operations – Greenhouse Gas Emissions (Mitigated)

Source	Emissions ($MTCO_2e$ per year)
Mobile	11,722
Area	-
Energy	1,922
Water	554
Waste	409
Refrigerants	2.12
Operation Subtotal	*14,609*
Amortized Construction Emissions from Full Project Buildout	136
Project Total	**14,745**
SCAQMD Thresholds of Significance	**3,000**
Exceeds Threshold?	**Yes**

Source: Appendix A.

As presented above, while implementation of Mitigation Measure GHG-1 would reduce GHG emissions, the level of emissions would not be reduced to below the 3,000 $MTCO_2e$ per year threshold.

This EIR includes a discussion of the residential component of the ORCC Specific Plan Project based on the site location and proposed buildout of the 167 residential units that are included within the City's site inventory to meet its RHNA requirements. The impacts from construction of a larger residential development were evaluated within Table 3.7-1. Additionally, operational impacts from the total 1,773 units were evaluated within Tables 3.7-2 and 3.7-3. Emissions were found to exceed GHG draft interim thresholds and therefore, the 167 residential units proposed under the ORCC Specific Plan Project were considered within the analysis of this Project. Specific impact findings associated with the development of the ORCC Specific Plan Project are being evaluated in a standalone project-specific EIR.

Conclusion

As demonstrated above, the Project could generate GHG emissions that may have a significant impact on the environment. While implementation of Mitigation Measure GHG-1 would reduce GHG impacts, the Project would still result in emissions that exceed the applicable threshold of significance. Future housing developments evaluated as part of the Project may be subject to discretionary permits and future CEQA review on a project-by-project basis. Regardless, the impact would be significant and unavoidable.

Level of Significance Before Mitigation

Significant Impact.

Mitigation Measures

MM GHG-1. **Implement GHG Reduction Measures.** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to GHG emissions. Such measures may include the following or other comparable measures identified by the City:

a) Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including:
    - Use energy efficient materials in building design, construction, rehabilitation, and retrofit.
    - Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems.
    - Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight.
    - Incorporate passive environmental control systems that account for the characteristics of the natural environment.

- Use high-efficiency lighting and cooking devices.
- Incorporate passive solar design.
- Use high-reflectivity building materials and multiple glazing.
- Prohibit gas-powered landscape maintenance equipment.
- Install electric vehicle charging stations.
- Reduce wood burning stoves or fireplaces.
- Provide bike lanes accessibility and parking at residential developments.

b) Include off-site measures to mitigate a project's emissions.

c) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction, and operation of projects to minimize GHG emissions, including but not limited to:
   - Use energy and fuel-efficient vehicles and equipment;
   - Deployment of zero- and/or near zero emission technologies;
   - Use lighting systems that are energy efficient, such as LED technology;
   - Use the minimum feasible amount of GHG-emitting construction materials;
   - Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
   - Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
   - Incorporate design measures to reduce energy consumption and increase use of renewable energy;
   - Incorporate design measures to reduce water consumption;
   - Use lighter-colored pavement where feasible;
   - Recycle construction debris to maximum extent feasible;
   - Plant shade trees in or near construction projects where feasible; and
   - Solicit bids that include concepts listed above.

d) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:
   - Promote transit-active transportation coordinated strategies;
   - Increase bicycle carrying capacity on transit and rail vehicles;
   - Improve or increase access to transit;
   - Increase access to common goods and services, such as groceries, schools, and day care;
   - Incorporate the neighborhood electric vehicle network;
   - Orient the project toward transit, bicycle and pedestrian facilities;
   - Improve pedestrian or bicycle networks, or transit service;
   - Provide traffic calming measures;
   - Provide bicycle parking;
   - Limit or eliminate park supply;
   - Unbundle parking costs;

  - Provide parking cash-out programs;
  - Implement or provide access to commute reduction program;

e) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
f) Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
g) Designate a percentage of parking spaces for ride-sharing vehicles or high occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
h) Land use siting and design measures that reduce GHG emissions, including:
  - Retaining on-site mature trees and vegetation, and planting new canopy trees;
  - Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and
  - Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.

Level of Significance After Mitigation

Significance and Unavoidable Impact.

Impact GHG-2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact Analysis

A project would have a significant impact with respect to GHG emissions and global climate change if it would substantially conflict with the provisions of Section 15064.4(b) of the CEQA Guidelines. Pursuant to Appendix G of the CEQA Guidelines, a significant GHG impact is identified if the project could conflict with applicable GHG reduction plans, policies, or regulations. The Project would be subject to complying with SB 32 and AB 1279. For this analysis, the applicable plans adopted for the purpose of reducing GHG emissions are the CARB's 2022 Scoping Plan and the SCAG RTP/SCS. Project consistency with the foregoing plans is evaluated below.

Consistency with the CARB's 2022 Scoping Plan

The 2022 Scoping Plan, approved in December 2022, builds upon previous iterations of State scoping plans to achieve carbon neutrality and reduce anthropogenic GHG emissions below 85 percent below

1990 no later than 2045, as directed by AB 1279 (CARB 2022). Table 12 identifies the Scoping Plan policies that may be applicable to the developments facilitated by the Project.

Table 12. Project Consistency with 2022 Scoping Plan Greenhouse Gas Reduction Strategies

Measure	Consistency Determination
Deploy ZEVs and reduce driving demand	**Consistent.** While the Project would not deploy ZEVs, consistent with the 2022 California Building Standards Code, or applicable code at the time of construction, all residential buildings facilitated by the Project would include EV-capable infrastructure to accommodate future installation of a Level 2 EV charger.
Coordinate supply of liquid fossil fuels with declining CA fuel demand	**Not Applicable.** This measure is aimed at petroleum refineries and fossil fuel extraction operations. The Project would not interfere with this goal.
Generate clean electricity	**Consistent.** Development facilitated by the Project would comply with all relevant provisions included in the California Building Standards Code applicable at the time of construction. Pursuant to the 2022 California Building Standards Code, new residential structures shall include rooftop solar panels to generate clean electricity.
Decarbonize Buildings	**Consistent.** Development facilitated by the Project would comply with all applicable provisions included in the California Building Standards Code applicable at the time of construction, which would help reduce GHG emissions associated with building operations. Further, implementation of Mitigation Measure GHG-1 would ensure that each future development facilitated by the Project would reduce GHG emissions.
Decarbonize Industrial Energy Supply	**Not Applicable.** The Project would facilitate development of residential land uses and would not affect the industrial sector.
Reduce non-combustion emissions (Methane)	**Consistent.** The Project would facilitate development of residential land uses and would not include any land uses that generate significant levels of methane, such as landfills or dairy farms.
Reduce non-combustion emissions (Hydrofluorocarbons [HFCs])	**Consistent.** Development facilitated under the Project would comply with all State regulations governing SLCPs, including HFCs.
Compensate for remaining emissions	**Not Applicable.** This measure is aimed at the State government to reduce statewide emissions to meet AB 1279 goals.

Source: CARB 2022.

This analysis finds that, with implementation of Mitigation Measure GHG-1, the Project would be consistent with the applicable strategies recommended in the 2022 Scoping Plan.

Consistency with the SCAG's Connect SoCal

In April 2024, the SCAG Regional Council approved the 2024-2050 Connect SoCal RTP/SCS. The primary goal of Connect SoCal is to achieve sustainable regional growth while reducing GHG emissions

through transportation and land use planning. Project consistency with the specific goals of Connect SoCal which are applicable to the Project are evaluated in Table 12.

Table 13. Project Consistency with Connect SoCal Greenhouse Gas Reduction Strategies

Goal	Consistency Determination
Goal 36: Encourage housing development in transit-supportive and walkable areas to create more interconnected and resilient communities	**Consistent.** Implementation of the Project would inherently support this goal. The Project would facilitate the development of up to 1,606 residential units throughout the City. The housing types consist of multi-family residences designated for varying income levels, including low-income and moderate-income units. Additionally, Orange County Transportation Authority and Long Beach Transit both provide public transit services throughout the City. Thus, future residents of components facilitated by the Project would have access to public transportation options.
Goal 37: Support local, regional, state and federal efforts to produce and preserve affordable housing while meeting additional housing needs across the region.	**Consistent.** See discussion above. Additionally, by implementing the Housing Element Update and demonstrating the City's ability to achieve provide housing at varying income levels, the Project would help encourage a diverse housing stock and contribute to more equitable communities.
Goal 51: Reduce hazardous air pollutants and greenhouse gas emissions and improve air quality throughout the region through planning and implementation efforts.	**Consistent.** Implementation of Mitigation Measures AQ-1, AQ-2, AQ-3, and GHG-1 would ensure that the Project reduces air and GHG emissions.

Source: SCAG 2024a.

The RTP/SCS generally encourages residential growth within identified priority growth areas, transit priority areas, and high-quality transit areas in order to facilitate the use of public transit and reduce per capita VMT. The City of Seal Beach does not include any priority growth areas, transit priority areas, and high-quality transit areas. However, multi-family housing is known to have a lower trip generation rate as compared to single-family residential units (Institute of Transportation Engineers 2021). Furthermore, infill development and densification also supports a reduced rate of single-passenger vehicle trips (Governor's Office of Land Use and Climate Innovation 2024).

Based on the above, with implementation of Mitigation Measures AQ-1, AQ-2, AQ-3, and GHG-1, the Project is considered consistent with the overarching goals of Connect SoCal 2024.

This EIR includes a discussion of the residential component of the ORCC Specific Plan Project based on the site location and proposed buildout of the 167 residential units that are included within the City's site inventory to meet its RHNA requirements. Consistency with CARB's 2022 Scoping Plan and SCAQG's Connect SoCal 2024 were evaluated for the buildout of 1,773 residential units and therefore, the 167 residential units proposed under the ORCC Specific Plan Project were considered within the analysis of this Project. Specific impact findings associated with the development of the ORCC Specific Plan Project are being evaluated in a standalone project-specific EIR.

Conclusion

The Project could conflict with an applicable plan adopted for the purpose of reducing GHG emissions; therefore, impacts could be considered significant. However, with the implementation of mitigation, the Project would comply with all applicable measures in the 2022 Scoping Plan and the RTP/SCS, and the impact would be reduced to a less-than-significant level.

Level of Significance Before Mitigation

Significant Impact.

Mitigation Measures

Mitigation Measures AQ-1, AQ-2, AQ-3, and GHG-1 are required.

Level of Significance After Mitigation

Less Than Significant Impact with Mitigation.

10.0 ENERGY IMPACT ANALYSIS

10.1 CEQA GUIDELINES

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine whether a project would have a significant impact on energy the following must be evaluated.

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

10.2 ENERGY IMPACT ANALYSIS

Impact ENR-1 Result in potential significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Impact Analysis

The energy requirements for buildout of the up to 1,773 residential units that would be facilitated under the Project were determined using the construction and operational estimates generated from the calculation worksheets for energy consumption (Appendix B). This impact addresses the energy consumption from both construction of an individual project and operational activities from the Project and the residential component of the ORCC Specific Plan Project, discussed separately below.

Construction Energy Demand

During construction activities facilitated by the Project, energy resources would be consumed in the form of diesel and gasoline fuel from the use of off-road equipment (i.e., tractors, excavators, cranes) and on-road vehicles (i.e., construction employee commutes, haul trucks). Construction is not anticipated to require natural gas. Temporary electricity may be required to provide as-necessary lighting and electric equipment; such electricity demand would be met by portable generator sets and, possibly, local distribution. Fuel demand associated with portable generators is incorporated in the off-road equipment estimate provided below. The amount of electricity used during construction would be minimal.

Specific buildout details of each future housing development facilitated by the Project are not available at this time; accordingly, this analysis presents estimated construction energy demand associated with buildout of Housing Opportunity Site 4, which would accommodate up to 552 multi-family units. All other Housing Opportunity Sites, the Main Street Program, and the residential component of the ORCC

Specific Plan Project are planned to involve development of fewer units and less ground disturbance and, thus, would likely result in less energy consumption during construction. Therefore, the developed of Housing Opportunity Site 4 is anticipated to be the most energy-intensive future development due to the size of the site.

Off-Road Equipment

Construction activities associated with buildout of Housing Opportunity Site 4, including site preparation, grading, paving, building construction, and architectural coating, was estimated to consume 46,170 gallons of diesel fuel from the use of off-road equipment. For comparison, in 2022, approximately 3.1 billion gallons of diesel fuel was purchased within California (CDTFA 2024). Thus, the diesel fuel required to power the off-road equipment during construction of Housing Opportunity Site 4 would represent approximately 0.002 percent of the State's annual diesel demand.

If the construction fuel demand for off-road equipment is scaled up to 1,773 units, then cumulative buildout of all developments facilitated by the Project would utilize approximately 0.005 percent of the State's annual diesel demand.

On-Road Vehicles

On-road vehicles for construction workers, vendors, and haulers would require fuel for travel to and from the site during construction. Table 13 provides an estimate of the total on-road vehicle fuel usage during construction of Housing Opportunity Site 4.

Table 14. Construction of Housing Opportunity Site 4 – On-Road Vehicle Fuel Consumption

Project Component	VMT	Gasoline Consumptions (gallons)	Diesel Consumption (gallons)	Electricity Consumption (kWh)
Worker Trips	1,885,331	65,515	258	34,352
Vendor Trips	150,472	4,436	7,819	977
Haul Trips	7,000	1	1,146	82
Totals	*2,042,804*	*69,952*	*9,224*	*35,411*

Notes:
Calculations use unrounded numbers; totals may not appear to sum exactly due to rounding.
VMT = vehicle miles traveled
Source: Appendix B.

As shown above, construction of Housing Opportunity Site 4 was estimated to consume 69,952 gallons of gasoline, 9,224 gallons of diesel, and 35,411 kWh of electricity associated with the use of on-road vehicles. For comparison, in 2022, approximately 13.6 billion gallons of gasoline and approximately 3.1 billion gallons of diesel fuel for motor vehicles was purchased within California (CDTFA 2024). Thus, the fuel required to power the on-road motor vehicles during construction of Housing Opportunity Site 4 would

represent approximately 0.0005 percent and 0.0003 percent of the State's annual gasoline and diesel demand, respectively.

If the construction fuel demand for on-road vehicles is scaled up to 1,773 units, then cumulative buildout of all developments facilitated by the Project would utilize approximately 0.0016 percent and 0.001 percent of the state's annual gasoline and diesel demand, respectively.

Construction Conclusion

Overall, construction activities associated with each component facilitated by the Project would result in the consumption of petroleum-based fuels and electricity from electric vehicles. However, there are no unusual Project characteristics that would necessitate the use of construction equipment or vehicles that would be less energy efficient than at comparable construction sites in other parts of the State. Therefore, it is expected that construction fuel consumption associated with each component of the Project and the Project as a whole would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

Operational Energy Demand

Implementation of the Project would result in future development of up to 1773 new residential units. During operations of the Project, energy would be required to power the residential buildings and to fuel the vehicles travelling to and from the sites.

Building Energy

The 1,733 new residential units facilitated by the Project would require energy for normal operations, such as lighting and temperature controls. Building energy usage was estimated for cumulative Project buildout. Over the course of a year, operational building energy consumption for all residential units accommodated by the Project would total approximately 6,642,169 kWh of electricity and 24,075,048 kBTU of natural gas.[1] It is noted that all future buildings would be constructed in compliance with the energy efficiency standards set forth in the California Building Standards Code that is applicable at the time of construction. As the California Building Standards Code will likely require more efficient design measures future, this represents a conservative estimate of the total electricity and natural gas Project buildout may require. Therefore, the Project's total energy consumption and would not result in the inefficient, wasteful, or unnecessary use of energy.

Transportation Energy

Future users of the 1,773 new residential units would travel to and from their residences during normal operations. Transportation energy usage was estimated for cumulative Project buildout and consistent with the VMT assessment prepared for the Project. These estimates were derived using the same assumptions used in the operational air quality and GHG analysis for the Project. Table 14 provides an

[1] These estimates do not account for the implementation of any mitigation.

estimate of the annual fuel consumed by vehicles traveling to and from the Project sites. As shown in the table, annual vehicular fuel consumption is estimated to be 1,137,357 gallons of gasoline, 133,422 gallons of diesel, and 895,624 kWh of electricity. In 2022, approximately 13.6 billion gallons of gasoline and approximately 3.1 billion gallons of diesel fuel for motor vehicles was purchased within California (CDTFA 2024). Therefore, full buildout of the Project would result in transportation fuel consumption that represents approximately 0.008 percent and 0.004 percent of the State's annual demand for gasoline and diesel, respectively. The Project would not result in vehicle use that is any more inefficient, wasteful, or unnecessary than other vehicle uses in the region.

Table 15. Project Operations – On-Road Vehicle Fuel Consumption

Vehicle Type	Proportion of Fleet	Gasoline Consumptions (gallons/yr)	Diesel Consumption (gallons/yr)	Electricity Consumption (kWh/yr)
Passenger Cars (LDA, LDT1, LDT2, MDV)	0.9236	1,069,206	3,881	786,447
Trucks (HHDT, MHDT, LHDT1, LHDT2)	0.0701	61,979	125,861	106,883
Motorcycles, Motor Homes, and Buses (MCY, MH, OBUS, SBUS, UBUS)	0.0063	6,171	3,679	2,294
Totals	*1.00*	*1,137,357*	*133,422*	*895,624*

Notes:
Calculations use unrounded numbers; totals may not appear to sum exactly due to rounding.
VMT = vehicle miles traveled
Source: Appendix B.

This EIR includes a discussion of the residential component of the ORCC Specific Plan Project based on the site location and proposed buildout of the 167 residential units that are included within the City's site inventory to meet its RHNA requirements. The impacts from construction and operation from the total 1,773 units were evaluated in the analysis above. Therefore, the 167 residential units proposed under the ORCC Specific Plan Project were considered within the analysis of this Project. Specific impact findings associated with the development of the ORCC Specific Plan Project are being evaluated in a standalone project-specific EIR.

Conclusion

Based on the analysis above, both construction and operations of the individual Project components and the Project as a whole would not result in a potential significant environmental impact due to the wasteful, inefficient, or unnecessary consumption of energy resources; therefore, the impact would be less than significant.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less Than Significant Impact.

Impact ENR-2 Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Impact Analysis

All developments facilitated by the Project would comply with federal, State, and local regulations aimed at reducing energy consumption. Local regulations have been developed in accordance with federal and State energy regulations, such as the California Building Energy Efficiency Standards (California Code of Regulations Title 24, Part 6), the CALGreen Code (California Code of Regulations Title 24, Part 11), and SB 743, which are also aimed at reducing energy consumption.

This EIR includes a discussion of the residential component of the ORCC Specific Plan Project based on the site location and proposed buildout of the 167 residential units that are included within the City's site inventory to meet its RHNA requirements. The residential component of the ORCC Specific Plan Project would be required to comply with all federal, state, and local regulation aimed at reducing energy consumption. Therefore, the 167 residential units proposed under the ORCC Specific Plan Project were considered within the analysis of this Project. Specific impact findings associated with the development of the ORCC Specific Plan Project are being evaluated in a standalone project-specific EIR.

Conclusion

The Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency; therefore, the impact would be less than significant.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less Than Significant Impact.

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APPENDIX A

CALEEMOD MODELING RESULTS

Seal Beach HE Update - Construction Detailed Report

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Data Field	Value
Project Name	Seal Beach HE Update - Construction
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.30
Precipitation (days)	18.4
Location	33.74633801824868, -118.10302812087545
County	Orange
City	Seal Beach
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5856
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	552	Dwelling Unit	12.0	529,920	0.00	—	1,645	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	166	166	13.8	36.3	0.04	0.45	5.70	6.14	0.41	1.36	1.77	—	9,555	9,555	0.26	0.47	25.1	9,726
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.11	3.39	33.0	33.3	0.06	1.38	20.2	21.5	1.27	10.2	11.5	—	9,300	9,300	0.30	0.47	0.65	9,448
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.94	9.84	12.3	23.0	0.03	0.43	4.41	4.85	0.40	1.32	1.72	—	6,077	6,077	0.19	0.27	6.02	6,169
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.81	1.80	2.24	4.20	0.01	0.08	0.81	0.88	0.07	0.24	0.31	—	1,006	1,006	0.03	0.05	1.00	1,021

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.09	2.59	13.8	36.3	0.04	0.45	5.70	6.14	0.41	1.36	1.77	—	9,555	9,555	0.26	0.47	25.1	9,726

2026	166	166	12.9	34.9	0.04	0.39	5.70	6.09	0.36	1.36	1.72	—	9,423	9,423	0.25	0.47	22.8	9,592
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.11	3.39	33.0	33.3	0.06	1.38	20.2	21.5	1.27	10.2	11.5	—	9,300	9,300	0.30	0.47	0.65	9,448
2026	2.79	2.45	13.2	32.0	0.04	0.39	5.70	6.09	0.36	1.36	1.72	—	9,174	9,174	0.26	0.47	0.59	9,321
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.26	1.89	12.3	23.0	0.03	0.43	4.41	4.85	0.40	1.32	1.72	—	6,077	6,077	0.19	0.27	6.02	6,169
2026	9.94	9.84	4.15	10.0	0.01	0.13	1.64	1.77	0.12	0.39	0.51	—	2,741	2,741	0.08	0.13	2.85	2,786
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.41	0.35	2.24	4.20	0.01	0.08	0.81	0.88	0.07	0.24	0.31	—	1,006	1,006	0.03	0.05	1.00	1,021
2026	1.81	1.80	0.76	1.83	< 0.005	0.02	0.30	0.32	0.02	0.07	0.09	—	454	454	0.01	0.02	0.47	461

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.73	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	189	189	< 0.005	0.01	0.02	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	0.01	0.88	0.38	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	698	698	0.06	0.11	0.04	733
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	10.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	38.2	38.2	< 0.005	0.01	0.03	40.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.74	1.74	< 0.005	< 0.005	< 0.005	1.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.33	6.33	< 0.005	< 0.005	0.01	6.65

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146

Dust From Material Movement	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.85	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	221	221	< 0.005	0.01	0.02	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.10	0.02	1.32	0.57	0.01	0.01	0.27	0.28	0.01	0.08	0.09	—	1,046	1,046	0.08	0.17	0.06	1,099
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.14	6.14	< 0.005	< 0.005	0.01	6.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.7	28.7	< 0.005	< 0.005	0.03	30.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.02	1.02	< 0.005	< 0.005	< 0.005	1.03

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.75	4.75	< 0.005	< 0.005	< 0.005	4.99

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.44	2.33	0.01	0.10	—	0.10	0.09	—	0.09	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.76	0.76	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.42	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.97	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	253	253	< 0.005	0.01	0.03	256
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.1	21.1	< 0.005	< 0.005	0.04	21.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.49	3.49	< 0.005	< 0.005	0.01	3.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.61	5.68	7.09	0.01	0.23	—	0.23	0.22	—	0.22	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.29	< 0.005	0.04	—	0.04	0.04	—	0.04	—	216	216	0.01	< 0.005	—	217
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.60	1.41	1.38	22.2	0.00	0.00	5.19	5.19	0.00	1.22	1.22	—	5,276	5,276	0.06	0.19	20.0	5,354
Vendor	0.14	0.05	1.96	0.97	0.01	0.01	0.50	0.52	0.01	0.14	0.15	—	1,881	1,881	0.11	0.26	5.12	1,967
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.59	1.40	1.57	19.2	0.00	0.00	5.19	5.19	0.00	1.22	1.22	—	5,021	5,021	0.07	0.19	0.52	5,079
Vendor	0.14	0.05	2.03	1.00	0.01	0.01	0.50	0.52	0.01	0.14	0.15	—	1,882	1,882	0.11	0.26	0.13	1,963
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.86	0.75	0.85	10.9	0.00	0.00	2.79	2.79	0.00	0.65	0.65	—	2,769	2,769	0.04	0.10	4.69	2,805
Vendor	0.08	0.03	1.11	0.54	0.01	0.01	0.27	0.28	0.01	0.08	0.08	—	1,024	1,024	0.06	0.14	1.21	1,069
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.14	0.15	2.00	0.00	0.00	0.51	0.51	0.00	0.12	0.12	—	458	458	0.01	0.02	0.78	464
Vendor	0.01	0.01	0.20	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.20	177
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.76	3.63	0.01	0.11	—	0.11	0.10	—	0.10	—	671	671	0.03	0.01	—	673
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.05	0.50	0.66	< 0.005	0.02	—	0.02	0.02	—	0.02	—	111	111	< 0.005	< 0.005	—	111
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.38	1.34	1.21	20.9	0.00	0.00	5.19	5.19	0.00	1.22	1.22	—	5,175	5,175	0.06	0.19	18.0	5,251
Vendor	0.14	0.04	1.88	0.94	0.01	0.01	0.50	0.52	0.01	0.14	0.15	—	1,851	1,851	0.09	0.26	4.78	1,936
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.37	1.34	1.39	18.1	0.00	0.00	5.19	5.19	0.00	1.22	1.22	—	4,925	4,925	0.07	0.19	0.47	4,984
Vendor	0.14	0.04	1.96	0.96	0.01	0.01	0.50	0.52	0.01	0.14	0.15	—	1,852	1,852	0.09	0.26	0.12	1,932
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.37	0.39	5.26	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,397	1,397	0.02	0.05	2.17	1,416
Vendor	0.04	0.01	0.55	0.27	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	518	518	0.03	0.07	0.58	541
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.96	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	231	231	< 0.005	0.01	0.36	234
Vendor	0.01	< 0.005	0.10	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	85.8	85.8	< 0.005	0.01	0.10	89.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.79	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	195	195	< 0.005	0.01	0.68	198
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	10.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.71	1.71	< 0.005	< 0.005	< 0.005	1.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	166	166	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34

Architectural Coating	9.09	9.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	1.66	1.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.27	0.24	4.19	0.00	0.00	1.04	1.04	0.00	0.24	0.24	—	1,035	1,035	0.01	0.04	3.60	1,050
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.21	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	54.7	54.7	< 0.005	< 0.005	0.09	55.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.06	9.06	< 0.005	< 0.005	0.01	9.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	1/29/2025	5.00	20.0	—
Site Preparation	Site Preparation	1/30/2025	2/13/2025	5.00	10.0	—
Grading	Grading	2/14/2025	3/28/2025	5.00	30.0	—
Building Construction	Building Construction	3/29/2025	5/23/2026	5.00	300	—
Paving	Paving	5/24/2026	6/21/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	6/22/2026	7/20/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	10.0	20.0	HHDT

Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	15.0	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	397	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	59.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	79.5	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	1,073,088	357,696	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005

2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.28	annual days of extreme heat
Extreme Precipitation	3.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	4.74	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	24.9
AQ-PM	60.5
AQ-DPM	40.5
Drinking Water	9.13
Lead Risk Housing	59.7
Pesticides	36.1
Toxic Releases	95.0
Traffic	53.4
Effect Indicators	—
CleanUp Sites	90.0
Groundwater	88.5

Haz Waste Facilities/Generators	89.8
Impaired Water Bodies	91.9
Solid Waste	67.5
Sensitive Population	—
Asthma	8.70
Cardio-vascular	22.7
Low Birth Weights	7.95
Socioeconomic Factor Indicators	—
Education	21.7
Housing	58.8
Linguistic	5.64
Poverty	0.83
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	97.84421917
Employed	59.16848454
Median HI	93.10920056
Education	—
Bachelor's or higher	89.32375209
High school enrollment	12.79353266
Preschool enrollment	95.7141024
Transportation	—
Auto Access	93.63531374
Active commuting	53.95868087

Social	—
2-parent households	51.8285641
Voting	90.4016425
Neighborhood	—
Alcohol availability	51.59758758
Park access	81.35506224
Retail density	52.62414988
Supermarket access	74.83639163
Tree canopy	28.25612729
Housing	—
Homeownership	99.76902348
Housing habitability	85.98742461
Low-inc homeowner severe housing cost burden	37.05889901
Low-inc renter severe housing cost burden	54.20248941
Uncrowded housing	83.16437829
Health Outcomes	—
Insured adults	89.59322469
Arthritis	0.0
Asthma ER Admissions	89.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	87.6
Cognitively Disabled	60.3
Physically Disabled	86.7

Heart Attack ER Admissions	70.3
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	19.2
Children	95.4
Elderly	10.4
English Speaking	98.1
Foreign-born	4.6
Outdoor Workers	93.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	30.4
Traffic Density	43.9
Traffic Access	23.0
Other Indices	—
Hardship	11.8
Other Decision Support	—
2016 Voting	93.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	23.0
Healthy Places Index Score for Project Location (b)	92.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted to match the estimated developable acres of Site No. 4.
Construction: Trips and VMT	Haul truck trips added into Demo and Site Prep phases to account for assumed material transport.

Seal Beach HE Update - Full Buildout Ops (Mitigated) v2 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Seal Beach HE Update - Full Buildout Ops (Mitigated) v2
Operational Year	2029
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.30
Precipitation (days)	18.4
Location	33.74633801824868, -118.10302812087545
County	Orange
City	Seal Beach
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5856
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	396	Dwelling Unit	10.4	380,160	7,917,891	—	1,180	mid-rise units

Apartments Low Rise	843	Dwelling Unit	52.7	893,580	4,638,291	—	2,512	low-rise units
Apartments High Rise	534	Dwelling Unit	8.61	512,640	6,254,666	—	1,591	affordable units

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-14*	Provide Electric Vehicle Charging Infrastructure
Transportation	T-34*	Provide Bike Parking
Transportation	T-35*	Provide Tra c Calming Measures
Energy	E-1	Buildings Exceed 2019 Title 24 Building Envelope Energy Efficiency Standards
Energy	E-2	Require Energy Efficient Appliances
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-A	Install Alternative Type of Water Heater in Place of Gas Storage Tank Heater in Residences
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Energy	E-13	Install Electric Ranges in Place of Gas Ranges
Water	W-4	Require Low-Flow Water Fixtures
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment
Area Sources	AS-2	Use Low-VOC Paints

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	82.8	79.0	27.5	356	0.75	0.92	70.6	71.5	0.88	17.9	18.8	834	92,462	93,296	88.1	3.06	194	96,606
Mit.	72.9	69.6	26.1	255	0.74	0.83	70.6	71.4	0.81	17.9	18.7	815	86,296	87,111	85.8	2.98	194	90,337
% Reduced	12%	12%	5%	28%	1%	9%	—	< 0.5%	8%	—	< 0.5%	2%	7%	7%	3%	3%	—	6%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	73.4	70.1	28.3	237	0.71	0.87	70.6	71.5	0.85	17.9	18.8	834	89,441	90,275	88.2	3.18	17.5	93,445
Mit.	72.7	69.4	27.9	237	0.71	0.83	70.6	71.4	0.81	17.9	18.7	815	83,473	84,289	85.9	3.09	17.5	87,375
% Reduced	1%	1%	2%	< 0.5%	< 0.5%	4%	—	< 0.5%	4%	—	< 0.5%	2%	7%	7%	3%	3%	—	6%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	79.5	75.8	29.2	312	0.73	0.90	69.7	70.6	0.87	17.7	18.6	834	90,367	91,201	88.2	3.19	91.1	94,447
Mit.	72.5	69.2	28.1	242	0.72	0.83	69.7	70.6	0.81	17.7	18.5	815	84,264	85,079	85.9	3.10	91.1	88,241
% Reduced	9%	9%	4%	22%	1%	8%	—	< 0.5%	7%	—	< 0.5%	2%	7%	7%	3%	3%	—	7%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.5	13.8	5.33	56.9	0.13	0.17	12.7	12.9	0.16	3.23	3.39	138	14,961	15,099	14.6	0.53	15.1	15,637
Mit.	13.2	12.6	5.13	44.2	0.13	0.15	12.7	12.9	0.15	3.23	3.38	135	13,951	14,086	14.2	0.51	15.1	14,609
% Reduced	9%	9%	4%	22%	1%	8%	—	< 0.5%	7%	—	< 0.5%	2%	7%	7%	3%	3%	—	7%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	31.5	28.6	20.5	253	0.70	0.38	70.6	71.0	0.36	17.9	18.3	—	71,832	71,832	2.92	2.64	181	72,874
Area	50.5	50.0	0.95	101	< 0.005	0.05	—	0.05	0.04	—	0.04	0.00	269	269	0.01	< 0.005	—	270
Energy	0.71	0.36	6.08	2.59	0.04	0.49	—	0.49	0.49	—	0.49	—	17,397	17,397	1.28	0.09	—	17,455
Water	—	—	—	—	—	—	—	—	—	—	—	127	2,965	3,092	13.3	0.33	—	3,523
Waste	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8
Total	82.8	79.0	27.5	356	0.75	0.92	70.6	71.5	0.88	17.9	18.8	834	92,462	93,296	88.1	3.06	194	96,606
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	31.4	28.4	22.3	234	0.68	0.38	70.6	71.0	0.36	17.9	18.3	—	69,080	69,080	3.02	2.76	4.70	69,982
Area	41.3	41.3	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.71	0.36	6.08	2.59	0.04	0.49	—	0.49	0.49	—	0.49	—	17,397	17,397	1.28	0.09	—	17,455
Water	—	—	—	—	—	—	—	—	—	—	—	127	2,965	3,092	13.3	0.33	—	3,523
Waste	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8
Total	73.4	70.1	28.3	237	0.71	0.87	70.6	71.5	0.85	17.9	18.8	834	89,441	90,275	88.2	3.18	17.5	93,445
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	31.2	28.2	22.5	240	0.68	0.38	69.7	70.1	0.36	17.7	18.1	—	69,822	69,822	3.01	2.77	78.3	70,800
Area	47.6	47.3	0.65	69.1	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	184	184	0.01	< 0.005	—	185
Energy	0.71	0.36	6.08	2.59	0.04	0.49	—	0.49	0.49	—	0.49	—	17,397	17,397	1.28	0.09	—	17,455
Water	—	—	—	—	—	—	—	—	—	—	—	127	2,965	3,092	13.3	0.33	—	3,523
Waste	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8
Total	79.5	75.8	29.2	312	0.73	0.90	69.7	70.6	0.87	17.7	18.6	834	90,367	91,201	88.2	3.19	91.1	94,447
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	5.69	5.15	4.10	43.8	0.12	0.07	12.7	12.8	0.06	3.23	3.30	—	11,560	11,560	0.50	0.46	13.0	11,722
Area	8.69	8.63	0.12	12.6	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	0.00	30.5	30.5	< 0.005	< 0.005	—	30.6
Energy	0.13	0.06	1.11	0.47	0.01	0.09	—	0.09	0.09	—	0.09	—	2,880	2,880	0.21	0.01	—	2,890
Water	—	—	—	—	—	—	—	—	—	—	—	21.1	491	512	2.19	0.06	—	583
Waste	—	—	—	—	—	—	—	—	—	—	—	117	0.00	117	11.7	0.00	—	409
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.12	2.12
Total	14.5	13.8	5.33	56.9	0.13	0.17	12.7	12.9	0.16	3.23	3.39	138	14,961	15,099	14.6	0.53	15.1	15,637

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	31.5	28.6	20.5	253	0.70	0.38	70.6	71.0	0.36	17.9	18.3	—	71,832	71,832	2.92	2.64	181	72,874
Area	40.7	40.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.66	0.33	5.61	2.39	0.04	0.45	—	0.45	0.45	—	0.45	—	11,595	11,595	0.91	0.05	—	11,632
Water	—	—	—	—	—	—	—	—	—	—	—	109	2,869	2,978	11.3	0.29	—	3,347
Waste	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8
Total	72.9	69.6	26.1	255	0.74	0.83	70.6	71.4	0.81	17.9	18.7	815	86,296	87,111	85.8	2.98	194	90,337
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	31.4	28.4	22.3	234	0.68	0.38	70.6	71.0	0.36	17.9	18.3	—	69,080	69,080	3.02	2.76	4.70	69,982
Area	40.7	40.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.66	0.33	5.61	2.39	0.04	0.45	—	0.45	0.45	—	0.45	—	11,525	11,525	0.90	0.05	—	11,561
Water	—	—	—	—	—	—	—	—	—	—	—	109	2,869	2,978	11.3	0.29	—	3,347
Waste	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8
Total	72.7	69.4	27.9	237	0.71	0.83	70.6	71.4	0.81	17.9	18.7	815	83,473	84,289	85.9	3.09	17.5	87,375
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	31.2	28.2	22.5	240	0.68	0.38	69.7	70.1	0.36	17.7	18.1	—	69,822	69,822	3.01	2.77	78.3	70,800
Area	40.7	40.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.66	0.33	5.61	2.39	0.04	0.45	—	0.45	0.45	—	0.45	—	11,573	11,573	0.91	0.05	—	11,610
Water	—	—	—	—	—	—	—	—	—	—	—	109	2,869	2,978	11.3	0.29	—	3,347
Waste	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8
Total	72.5	69.2	28.1	242	0.72	0.83	69.7	70.6	0.81	17.7	18.5	815	84,264	85,079	85.9	3.10	91.1	88,241
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.69	5.15	4.10	43.8	0.12	0.07	12.7	12.8	0.06	3.23	3.30	—	11,560	11,560	0.50	0.46	13.0	11,722
Area	7.42	7.42	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.12	0.06	1.02	0.44	0.01	0.08	—	0.08	0.08	—	0.08	—	1,916	1,916	0.15	0.01	—	1,922
Water	—	—	—	—	—	—	—	—	—	—	—	18.0	475	493	1.88	0.05	—	554
Waste	—	—	—	—	—	—	—	—	—	—	—	117	0.00	117	11.7	0.00	—	409
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.12	2.12
Total	13.2	12.6	5.13	44.2	0.13	0.15	12.7	12.9	0.15	3.23	3.38	135	13,951	14,086	14.2	0.51	15.1	14,609

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	5.64	5.12	3.67	45.2	0.13	0.07	12.6	12.7	0.06	3.21	3.27	—	12,852	12,852	0.52	0.47	32.5	13,039
Apartments Low Rise	17.8	16.2	11.6	143	0.40	0.22	39.9	40.1	0.20	10.1	10.3	—	40,618	40,618	1.65	1.49	103	41,207
Apartments High Rise	8.06	7.32	5.24	64.6	0.18	0.10	18.0	18.1	0.09	4.58	4.67	—	18,362	18,362	0.75	0.68	46.4	18,628
Total	31.5	28.6	20.5	253	0.70	0.38	70.6	71.0	0.36	17.9	18.3	—	71,832	71,832	2.92	2.64	181	72,874
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	5.61	5.08	3.98	41.9	0.12	0.07	12.6	12.7	0.06	3.21	3.27	—	12,360	12,360	0.54	0.49	0.84	12,521
Apartments Low Rise	17.7	16.1	12.6	132	0.38	0.22	39.9	40.1	0.20	10.1	10.3	—	39,062	39,062	1.71	1.56	2.66	39,572
Apartments High Rise	8.02	7.26	5.69	59.9	0.17	0.10	18.0	18.1	0.09	4.58	4.67	—	17,658	17,658	0.77	0.71	1.20	17,889
Total	31.4	28.4	22.3	234	0.68	0.38	70.6	71.0	0.36	17.9	18.3	—	69,080	69,080	3.02	2.76	4.70	69,982
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.02	0.92	0.73	7.84	0.02	0.01	2.28	2.29	0.01	0.58	0.59	—	2,068	2,068	0.09	0.08	2.32	2,097
Apartments Low Rise	3.21	2.91	2.32	24.8	0.07	0.04	7.20	7.24	0.04	1.83	1.86	—	6,537	6,537	0.28	0.26	7.33	6,628

Apartments High Rise	1.45	1.32	1.05	11.2	0.03	0.02	3.25	3.27	0.02	0.83	0.84	—	2,955	2,955	0.13	0.12	3.31	2,996
Total	5.69	5.15	4.10	43.8	0.12	0.07	12.7	12.8	0.06	3.23	3.30	—	11,560	11,560	0.50	0.46	13.0	11,722

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	5.64	5.12	3.67	45.2	0.13	0.07	12.6	12.7	0.06	3.21	3.27	—	12,852	12,852	0.52	0.47	32.5	13,039
Apartments Low Rise	17.8	16.2	11.6	143	0.40	0.22	39.9	40.1	0.20	10.1	10.3	—	40,618	40,618	1.65	1.49	103	41,207
Apartments High Rise	8.06	7.32	5.24	64.6	0.18	0.10	18.0	18.1	0.09	4.58	4.67	—	18,362	18,362	0.75	0.68	46.4	18,628
Total	31.5	28.6	20.5	253	0.70	0.38	70.6	71.0	0.36	17.9	18.3	—	71,832	71,832	2.92	2.64	181	72,874
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	5.61	5.08	3.98	41.9	0.12	0.07	12.6	12.7	0.06	3.21	3.27	—	12,360	12,360	0.54	0.49	0.84	12,521
Apartments Low Rise	17.7	16.1	12.6	132	0.38	0.22	39.9	40.1	0.20	10.1	10.3	—	39,062	39,062	1.71	1.56	2.66	39,572

Apartments High Rise	8.02	7.26	5.69	59.9	0.17	0.10	18.0	18.1	0.09	4.58	4.67	—	17,658	17,658	0.77	0.71	1.20	17,889
Total	31.4	28.4	22.3	234	0.68	0.38	70.6	71.0	0.36	17.9	18.3	—	69,080	69,080	3.02	2.76	4.70	69,982
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.02	0.92	0.73	7.84	0.02	0.01	2.28	2.29	0.01	0.58	0.59	—	2,068	2,068	0.09	0.08	2.32	2,097
Apartments Low Rise	3.21	2.91	2.32	24.8	0.07	0.04	7.20	7.24	0.04	1.83	1.86	—	6,537	6,537	0.28	0.26	7.33	6,628
Apartments High Rise	1.45	1.32	1.05	11.2	0.03	0.02	3.25	3.27	0.02	0.83	0.84	—	2,955	2,955	0.13	0.12	3.31	2,996
Total	5.69	5.15	4.10	43.8	0.12	0.07	12.7	12.8	0.06	3.23	3.30	—	11,560	11,560	0.50	0.46	13.0	11,722

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,116	2,116	0.13	0.02	—	2,124
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	4,712	4,712	0.29	0.04	—	4,730

Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,853	2,853	0.18	0.02	—	2,864
Total	—	—	—	—	—	—	—	—	—	—	—	—	9,681	9,681	0.60	0.07	—	9,718
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,116	2,116	0.13	0.02	—	2,124
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	4,712	4,712	0.29	0.04	—	4,730
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,853	2,853	0.18	0.02	—	2,864
Total	—	—	—	—	—	—	—	—	—	—	—	—	9,681	9,681	0.60	0.07	—	9,718
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	350	350	0.02	< 0.005	—	352
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	780	780	0.05	0.01	—	783
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	472	472	0.03	< 0.005	—	474
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,603	1,603	0.10	0.01	—	1,609

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	30.7	30.7	< 0.005	< 0.005	—	30.8
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,095	3,095	0.19	0.02	—	3,106
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,352	1,352	0.08	0.01	—	1,357
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,477	4,477	0.28	0.03	—	4,494
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0	< 0.005	< 0.005	—	15.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,061	3,061	0.19	0.02	—	3,073
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,331	1,331	0.08	0.01	—	1,336
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,407	4,407	0.27	0.03	—	4,423
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	4.26	4.26	< 0.005	< 0.005	—	4.28
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	511	511	0.03	< 0.005	—	513

Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	223	223	0.01	< 0.005	—	224
Total	—	—	—	—	—	—	—	—	—	—	—	—	738	738	0.05	0.01	—	740

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.13	0.06	1.11	0.47	0.01	0.09	—	0.09	0.09	—	0.09	—	1,410	1,410	0.12	< 0.005	—	1,414
Apartments Low Rise	0.41	0.20	3.47	1.48	0.02	0.28	—	0.28	0.28	—	0.28	—	4,405	4,405	0.39	0.01	—	4,418
Apartments High Rise	0.18	0.09	1.50	0.64	0.01	0.12	—	0.12	0.12	—	0.12	—	1,901	1,901	0.17	< 0.005	—	1,906
Total	0.71	0.36	6.08	2.59	0.04	0.49	—	0.49	0.49	—	0.49	—	7,716	7,716	0.68	0.01	—	7,737
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.13	0.06	1.11	0.47	0.01	0.09	—	0.09	0.09	—	0.09	—	1,410	1,410	0.12	< 0.005	—	1,414
Apartments Low Rise	0.41	0.20	3.47	1.48	0.02	0.28	—	0.28	0.28	—	0.28	—	4,405	4,405	0.39	0.01	—	4,418

Apartments High Rise	0.18	0.09	1.50	0.64	0.01	0.12	—	0.12	0.12	—	0.12	—	1,901	1,901	0.17	< 0.005	—	1,906
Total	0.71	0.36	6.08	2.59	0.04	0.49	—	0.49	0.49	—	0.49	—	7,716	7,716	0.68	0.01	—	7,737
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.02	0.01	0.20	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	233	233	0.02	< 0.005	—	234
Apartments Low Rise	0.07	0.04	0.63	0.27	< 0.005	0.05	—	0.05	0.05	—	0.05	—	729	729	0.06	< 0.005	—	731
Apartments High Rise	0.03	0.02	0.27	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	—	315	315	0.03	< 0.005	—	316
Total	0.13	0.06	1.11	0.47	0.01	0.09	—	0.09	0.09	—	0.09	—	1,277	1,277	0.11	< 0.005	—	1,281

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.12	0.06	1.02	0.44	0.01	0.08	—	0.08	0.08	—	0.08	—	1,299	1,299	0.11	< 0.005	—	1,303
Apartments Low Rise	0.37	0.19	3.20	1.36	0.02	0.26	—	0.26	0.26	—	0.26	—	4,066	4,066	0.36	0.01	—	4,077
Apartments High Rise	0.16	0.08	1.38	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,753	1,753	0.16	< 0.005	—	1,758
Total	0.66	0.33	5.61	2.39	0.04	0.45	—	0.45	0.45	—	0.45	—	7,118	7,118	0.63	0.01	—	7,138

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.12	0.06	1.02	0.44	0.01	0.08	—	0.08	0.08	—	0.08	—	1,299	1,299	0.11	< 0.005	—	1,303
Apartments Low Rise	0.37	0.19	3.20	1.36	0.02	0.26	—	0.26	0.26	—	0.26	—	4,066	4,066	0.36	0.01	—	4,077
Apartments High Rise	0.16	0.08	1.38	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,753	1,753	0.16	< 0.005	—	1,758
Total	0.66	0.33	5.61	2.39	0.04	0.45	—	0.45	0.45	—	0.45	—	7,118	7,118	0.63	0.01	—	7,138
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.02	0.01	0.19	0.08	< 0.005	0.02	—	0.02	0.02	—	0.02	—	215	215	0.02	< 0.005	—	216
Apartments Low Rise	0.07	0.03	0.58	0.25	< 0.005	0.05	—	0.05	0.05	—	0.05	—	673	673	0.06	< 0.005	—	675
Apartments High Rise	0.03	0.01	0.25	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	290	290	0.03	< 0.005	—	291
Total	0.12	0.06	1.02	0.44	0.01	0.08	—	0.08	0.08	—	0.08	—	1,178	1,178	0.10	< 0.005	—	1,182

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	38.2	38.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	3.06	3.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	9.22	8.73	0.95	101	< 0.005	0.05	—	0.05	0.04	—	0.04	—	269	269	0.01	< 0.005	—	270
Total	50.5	50.0	0.95	101	< 0.005	0.05	—	0.05	0.04	—	0.04	0.00	269	269	0.01	< 0.005	—	270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	38.2	38.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	3.06	3.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	41.3	41.3	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	6.98	6.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.56	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	1.15	1.09	0.12	12.6	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	30.5	30.5	< 0.005	< 0.005	—	30.6
Total	8.69	8.63	0.12	12.6	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	0.00	30.5	30.5	< 0.005	< 0.005	—	30.6

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	38.2	38.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.45	2.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	40.7	40.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	38.2	38.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.45	2.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	40.7	40.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	6.98	6.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.45	0.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	7.42	7.42	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	28.5	1,118	1,146	2.99	0.08	—	1,244
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	60.6	882	943	6.27	0.15	—	1,146
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	38.4	965	1,004	4.00	0.10	—	1,134
Total	—	—	—	—	—	—	—	—	—	—	—	127	2,965	3,092	13.3	0.33	—	3,523
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	—	28.5	1,118	1,146	2.99	0.08	—	1,244
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	60.6	882	943	6.27	0.15	—	1,146
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	38.4	965	1,004	4.00	0.10	—	1,134
Total	—	—	—	—	—	—	—	—	—	—	—	127	2,965	3,092	13.3	0.33	—	3,523
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	4.71	185	190	0.49	0.01	—	206
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.0	146	156	1.04	0.03	—	190
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	6.36	160	166	0.66	0.02	—	188
Total	—	—	—	—	—	—	—	—	—	—	—	21.1	491	512	2.19	0.06	—	583

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	24.3	1,096	1,120	2.56	0.07	—	1,205
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	51.8	836	888	5.36	0.13	—	1,062

Apartme High Rise	—	—	—	—	—	—	—	—	—	—	—	32.8	936	969	3.42	0.09	—	1,080
Total	—	—	—	—	—	—	—	—	—	—	—	109	2,869	2,978	11.3	0.29	—	3,347
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Mid Rise	—	—	—	—	—	—	—	—	—	—	—	24.3	1,096	1,120	2.56	0.07	—	1,205
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	51.8	836	888	5.36	0.13	—	1,062
Apartme nts High Rise	—	—	—	—	—	—	—	—	—	—	—	32.8	936	969	3.42	0.09	—	1,080
Total	—	—	—	—	—	—	—	—	—	—	—	109	2,869	2,978	11.3	0.29	—	3,347
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Mid Rise	—	—	—	—	—	—	—	—	—	—	—	4.03	181	185	0.42	0.01	—	199
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	8.57	138	147	0.89	0.02	—	176
Apartme nts High Rise	—	—	—	—	—	—	—	—	—	—	—	5.43	155	160	0.57	0.01	—	179
Total	—	—	—	—	—	—	—	—	—	—	—	18.0	475	493	1.88	0.05	—	554

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	158	0.00	158	15.8	0.00	—	552
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	336	0.00	336	33.6	0.00	—	1,175
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	213	0.00	213	21.3	0.00	—	744
Total	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	158	0.00	158	15.8	0.00	—	552
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	336	0.00	336	33.6	0.00	—	1,175
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	213	0.00	213	21.3	0.00	—	744
Total	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	26.1	0.00	26.1	2.61	0.00	—	91.4
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	55.6	0.00	55.6	5.56	0.00	—	195

Apartme High Rise	—	—	—	—	—	—	—	—	—	—	—	35.2	0.00	35.2	3.52	0.00	—	123
Total	—	—	—	—	—	—	—	—	—	—	—	117	0.00	117	11.7	0.00	—	409

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	158	0.00	158	15.8	0.00	—	552
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	336	0.00	336	33.6	0.00	—	1,175
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	213	0.00	213	21.3	0.00	—	744
Total	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	158	0.00	158	15.8	0.00	—	552
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	336	0.00	336	33.6	0.00	—	1,175
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	213	0.00	213	21.3	0.00	—	744

Total	—	—	—	—	—	—	—	—	—	—	—	707	0.00	707	70.6	0.00	—	2,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	26.1	0.00	26.1	2.61	0.00	—	91.4
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	55.6	0.00	55.6	5.56	0.00	—	195
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	35.2	0.00	35.2	3.52	0.00	—	123
Total	—	—	—	—	—	—	—	—	—	—	—	117	0.00	117	11.7	0.00	—	409

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.40	6.40
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.67	3.67
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.40	6.40
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.67	3.67
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.61	0.61
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.12	2.12

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.40	6.40
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.67	3.67
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.40	6.40
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.67	3.67
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.8	12.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.61	0.61
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.12	2.12

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	1,798	1,798	1,798	656,212	17,847	17,847	17,847	6,514,003
Apartments Low Rise	5,682	5,682	5,682	2,073,864	56,402	56,402	56,402	20,586,589
Apartments High Rise	2,569	2,569	2,569	937,517	25,497	25,497	25,497	9,306,433

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	1,798	1,798	1,798	656,212	17,847	17,847	17,847	6,514,003
Apartments Low Rise	5,682	5,682	5,682	2,073,864	56,402	56,402	56,402	20,586,589
Apartments High Rise	2,569	2,569	2,569	937,517	25,497	25,497	25,497	9,306,433

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	786
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0

Electric Fireplaces	0
No Fireplaces	513
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments High Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	534
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	786
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0

Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	513
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments High Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	534
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
3617419.5	1,205,807	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	1,451,670	532	0.0330	0.0040	4,398,310
Apartments Low Rise	3,232,943	532	0.0330	0.0040	13,745,684
Apartments High Rise	1,957,555	532	0.0330	0.0040	5,931,054

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	10,261	532	0.0330	0.0040	4,053,836
Apartments Low Rise	2,100,267	532	0.0330	0.0040	12,686,158
Apartments High Rise	913,001	532	0.0330	0.0040	5,470,231

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	14,860,157	125,422,998
Apartments Low Rise	31,634,123	73,472,641
Apartments High Rise	20,038,697	99,076,752

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	12,695,032	125,422,998
Apartments Low Rise	27,025,031	73,472,641
Apartments High Rise	17,119,059	99,076,752

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	293	—
Apartments Low Rise	623	—
Apartments High Rise	395	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	293	—
Apartments Low Rise	623	—
Apartments High Rise	395	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments High Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

Apartments High Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.28	annual days of extreme heat
Extreme Precipitation	3.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	4.74	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	24.9
AQ-PM	60.5

AQ-DPM	40.5
Drinking Water	9.13
Lead Risk Housing	59.7
Pesticides	36.1
Toxic Releases	95.0
Traffic	53.4
Effect Indicators	—
CleanUp Sites	90.0
Groundwater	88.5
Haz Waste Facilities/Generators	89.8
Impaired Water Bodies	91.9
Solid Waste	67.5
Sensitive Population	—
Asthma	8.70
Cardio-vascular	22.7
Low Birth Weights	7.95
Socioeconomic Factor Indicators	—
Education	21.7
Housing	58.8
Linguistic	5.64
Poverty	0.83
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	97.84421917

Employed	59.16848454
Median HI	93.10920056
Education	—
Bachelor's or higher	89.32375209
High school enrollment	12.79353266
Preschool enrollment	95.7141024
Transportation	—
Auto Access	93.63531374
Active commuting	53.95868087
Social	—
2-parent households	51.8285641
Voting	90.4016425
Neighborhood	—
Alcohol availability	51.59758758
Park access	81.35506224
Retail density	52.62414988
Supermarket access	74.83639163
Tree canopy	28.25612729
Housing	—
Homeownership	99.76902348
Housing habitability	85.98742461
Low-inc homeowner severe housing cost burden	37.05889901
Low-inc renter severe housing cost burden	54.20248941
Uncrowded housing	83.16437829
Health Outcomes	—
Insured adults	89.59322469
Arthritis	0.0
Asthma ER Admissions	89.7

High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	87.6
Cognitively Disabled	60.3
Physically Disabled	86.7
Heart Attack ER Admissions	70.3
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	19.2
Children	95.4
Elderly	10.4
English Speaking	98.1
Foreign-born	4.6
Outdoor Workers	93.2

Climate Change Adaptive Capacity	—
Impervious Surface Cover	30.4
Traffic Density	43.9
Traffic Access	23.0
Other Indices	—
Hardship	11.8
Other Decision Support	—
2016 Voting	93.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	23.0
Healthy Places Index Score for Project Location (b)	92.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Land Use	Acreage adjusted to match the estimated developable acres of Site No. 5.
Construction: Trips and VMT	Haul truck trips added into Demo and Site Prep phases to account for assumed material transport.
Operations: Vehicle Data	Trip generation rates updated per project-specific TIA. Trip lengths kept as defaults.
Operations: Hearths	No fireplaces or wood stoves.

APPENDIX B

ENERGY CALCULATIONS

Seal Beach Housing Element and Zoning Update Project—Energy Consumption Summary

Date of Last Revision: October 22, 2024

Summary of Energy Use During Construction		Annual Fuel Use
Construction On-Road Vehicle Fuel (D)	9,224	gallons (diesel)
Construction On-Road Vehicle Fuel (G)	69,952	gallons (gasoline)
Construction On-Road Vehicle Fuel (E)	35,411	kWh
Construction Off-Road Equipment Fuel	46,170	gallons (diesel)

Summary of Energy Use During Operations		Annual Fuel Use
Operational On-Road Vehicle Fuel (D)	133,422	gallons (diesel)
Operational On-Road Vehicle Fuel (G)	1,137,357	gallons (gasoline)
Operational On-Road Vehicle Fuel (E)	895,624	kWh
Building Electricity (unmitigated)	6,642,169	kWh
Building Natural Gas (unmitigated)	24,075,048	kBTU

Construction On-Road Vehicle Fuel Calculations

Housing Opportunity Site No. 4 of Seal Beach HE Update Project

Construction Schedule

Construction Phase Name	Start Date	End Date	Number of Days
Demolition	1/1/2025	1/29/2025	20
Site Preparation	1/30/2025	2/13/2025	10
Grading	2/14/2025	3/28/2025	30
Building Construction	3/29/2025	5/23/2026	300
Paving	5/24/2026	6/21/2026	20
Architectural Coating	6/22/2026	7/20/2026	20

Construction Trips and VMT

	Trips per Day				Construction Trip Length in Miles					Trips per Phase				VMT per Phase				
Phase Name	Worker Trip Number	Vendor Trip Number	Onsite Truck Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Onsite Truck Trip Length	Hauling Trip Length	Number of Days per Phase	Worker Trip Number	Vendor Trip Number	Onsite Truck Trip Number	Hauling Trip Number	Worker Trips	Vendor Trips	Onsite Truck Trips	Hauling Trips	
Demolition	15	0	0	10	18.5	10.2	0	20	20	300	0	0	200	5,550	0	0	4,000	
Site Preparation	18	0	0	15	18.5	10.2	0	20	10	175	0	0	150	3,238	0	0	3,000	
Grading	15	0	0	0	18.5	10.2	0	20	30	450	0	0	0	8,325	0	0	0	
Building Construction	331	49	0	0	18.5	10.2	0	20	300	99,360	14,752	0	0	1,838,160	150,472	0	0	
Paving	15	0	0	0	18.5	10.2	0	20	20	300	0	0	0	5,550	0	0	0	
Architectural Coating	66	0	0	0	18.5	10.2	0	20	20	1,325	0	0	0	24,509	0	0	0	
														1,885,331	150,472	0	7,000	2,042,804

		Gasoline		Diesel		Electric	
Trip Type	VMT	VMT	Consumption	VMT	Consumption	VMT	Consumption
Worker Trips	1,885,331	1,788,309	65,515	8,048	258	88,975	34,352
Vendor Trips	150,472	56,063	4,436	93,007	7,819	1,402	977
Hauling Trips	7,000	3	1	6,951	1,146	45	82
TOTALS	*2,042,804*	*1,844,375*	*69,952*	*108,006*	*9,224*	*90,423*	*35,411*
Statewide Consumption			13,629,998,406		3,067,876,790		
			0.0005%		0.0003%		
			0.0015%		0.0009%		

2,042,804

Total Project Construction VMT (miles)

2,042,804

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: Orange
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT = Vehicle Miles Traveled
FE = Fuel Economy

						Given					*Calculations*	
Region	Calendar Year	Vehicle Categ	Model Year	Speed	Fuel	Population	VMT (mi/day)	% of Fleet	Energy Consumption (kWh/day)	Fuel Consumption (1000 gallons/day)	FE (mi/gallon)/(mi/kWh)	VMT*FE
Orange	2025	HHDT	Aggregate	Aggregate	Gasoline	6.7222924	572.5132259	0.04%	0	0.132943836	4.3064293	2465.488
Orange	2025	HHDT	Aggregate	Aggregate	Diesel	11420.65	1281007.926	99.31%	0	211.237609	6.0642985	7768415
Orange	2025	HHDT	Aggregate	Aggregate	Electricity	83.088293	8366.060491	0.65%	15115.80723	0	0.5534644	4630.316
Orange	2025	LDA	Aggregate	Aggregate	Gasoline	1056312.5	41885606.83	91.86%	0	1364.761186	30.690796	1.29E+09
Orange	2025	LDA	Aggregate	Aggregate	Diesel	3018.2865	89138.09087	0.20%	0	2.06406705	43.185657	3849487
Orange	2025	LDA	Aggregate	Aggregate	Electricity	74944.83	3623884.151	7.95%	1399118.378	0	2.5901198	9386294
Orange	2025	LDT1	Aggregate	Aggregate	Gasoline	96356.973	3443415.123	99.60%	0	134.366068	25.627118	88244807
Orange	2025	LDT1	Aggregate	Aggregate	Diesel	28.508221	428.3760164	0.01%	0	0.017924086	23.899462	10237.96
Orange	2025	LDT1	Aggregate	Aggregate	Electricity	292.06875	13382.73952	0.39%	5166.841994	0	2.5901198	34662.9
Orange	2025	LDT2	Aggregate	Aggregate	Gasoline	529834.47	21568112.97	98.89%	0	860.9716631	25.050898	5.4E+08
Orange	2025	LDT2	Aggregate	Aggregate	Diesel	2111.5254	87946.98549	0.40%	0	2.68272495	32.782707	2883140
Orange	2025	LDT2	Aggregate	Aggregate	Electricity	4251.5063	154415.472	0.71%	59617.11678	0	2.5901198	399954.6
Orange	2025	LHDT1	Aggregate	Aggregate	Gasoline	41223.987	1660486.368	62.85%	0	115.6151536	14.362186	23848214
Orange	2025	LHDT1	Aggregate	Aggregate	Diesel	22344.745	951494.9678	36.01%	0	45.63388289	20.850625	19839265
Orange	2025	LHDT1	Aggregate	Aggregate	Electricity	428.31076	30121.52667	1.14%	16925.44598	0	1.7796593	53606.05
Orange	2025	LHDT2	Aggregate	Aggregate	Gasoline	6668.4375	250352.8675	37.61%	0	19.99612697	12.520068	3134435
Orange	2025	LHDT2	Aggregate	Aggregate	Diesel	9609.5748	407866.7845	61.28%	0	23.15667142	17.61336	7183904
Orange	2025	LHDT2	Aggregate	Aggregate	Electricity	110.61689	7389.195621	1.11%	4155.863955	0	1.7780167	13138.11
Orange	2025	MDV	Aggregate	Aggregate	Gasoline	325579.96	12660247.41	97.33%	0	622.3110176	20.343923	2.58E+08
Orange	2025	MDV	Aggregate	Aggregate	Diesel	4600.6408	180507.4796	1.39%	0	7.379567219	24.460442	4415293
Orange	2025	MDV	Aggregate	Aggregate	Electricity	4586.9893	166596.8195	1.28%	64320.12231	0	2.5901198	431505.7
Orange	2025	MHDT	Aggregate	Aggregate	Gasoline	7268.4134	379776.8426	24.47%	0	73.08335708	5.1964887	1973506
Orange	2025	MHDT	Aggregate	Aggregate	Diesel	28028.877	1160618.703	74.79%	0	129.2771257	8.9777576	10419753
Orange	2025	MHDT	Aggregate	Aggregate	Electricity	222.61699	11431.93425	0.74%	11989.52129	0	0.9534938	10900.28

	2026		
Worker (LDA, LDT1, LDT2, MDV)	**gas**	**diesel**	**elec**
Sum of VMT*FE (Column BI)	**2171607099**	**11158158**	**10252417.11**
Total VMT	**79557382.33**	**358020.932**	**3958279.182**
Weighted Average Fuel Economy	**27.29611049**	**31.16621686**	**2.590119756**
Percentage	95%	0%	5%
Vendor (HHDT, LHDT1, LHDT2, MHDT)			
Sum of VMT*FE (Column BI)	**28958620.95**	**45211336.86**	**82274.76199**
Total VMT	**2291188.592**	**3800988.381**	**57308.71702**
Weighted Average Fuel Economy	**12.63912585**	**11.89462643**	**1.435641317**
Percentage	37%	62%	1%
Onsite Trucks (LHDT1, LHDT2, MDV)			
Sum of VMT*FE (Column BI)	**284541747.5**	**31438461.75**	**498249.8807**
Total VMT	**14571086.64**	**1539869.232**	**204107.5418**
Weighted Average Fuel Economy	**19.52783306**	**20.41631919**	**2.441114504**
Percentage	89%	9%	1%
Haul (HHDT)			
Sum of VMT*FE (Column BI)	**2465.487715**	**7768414.507**	**4630.316268**
Total VMT	**572.5132259**	**1281007.926**	**8366.060491**
Weighted Average Fuel Economy	**4.306429273**	**6.06429855**	**0.553464354**
Percentage	0%	99%	1%

Construction Off-Road Equipment Fuel Calculation

Housing Opportunity Site No. 4 of Seal Beach HE Update Project

Construction Schedule

Construction Phase Name	Start Date	End Date	Number of Days
Demolition	1/1/2025	1/29/2025	20
Site Preparation	1/30/2025	2/13/2025	10
Grading	2/14/2025	3/28/2025	30
Building Construction	3/29/2025	5/23/2026	300
Paving	5/24/2026	6/21/2026	20
Architectural Coating	6/22/2026	7/20/2026	20

Construction Equipment

Phase Name	Standardized Equipment Type	HP Bin	Equipment Type + HP Bin	Amount	Use Hours per Day	Horse Power	Load Factor	Number of Days	HP Hours	Fuel (gallons/HP-hour)	Diesel Fuel Usage
Demolition	Rubber Tired Dozers	600	Rubber Tired Dozers 600	2	8	367	0.4	20	46,976.00	0.045360697	2130.864102
Demolition	Excavators	50	Excavators 50	3	8	36	0.38	20	6,566.40	0.056097854	368.3609507
Demolition	Concrete/Industrial Saws	50	Concrete/Industrial Saws 50	1	8	33	0.73	20	3,854.40	0.041778545	161.0312236
Site Preparation	Rubber Tired Dozers	600	Rubber Tired Dozers 600	3	8	367	0.4	10	35,232.00	0.045360697	1598.148077
Site Preparation	Tractors/Loaders/Backhoes	100	Tractors/Loaders/Backhoes 100	4	8	84	0.37	10	9,945.60	0.056488273	561.8097728
Grading	Graders	175	Graders 175	1	8	148	0.41	30	14,563.20	0.053828804	783.9196317
Grading	Excavators	50	Excavators 50	2	8	36	0.38	30	6,566.40	0.056097854	368.3609507
Grading	Tractors/Loaders/Backhoes	100	Tractors/Loaders/Backhoes 100	2	8	84	0.37	30	14,918.40	0.056488273	842.7146592
Grading	Rubber Tired Dozers	600	Rubber Tired Dozers 600	1	8	367	0.4	30	35,232.00	0.045360697	1598.148077
Grading	Scrapers	600	Scrapers 600	2	8	423	0.48	30	97,459.20	0.047681676	4647.017963
Building Construction	Rough Terrain Forklifts	75	Rough Terrain Forklifts 75	3	8	82	0.2	300	118,080.00	0.056397679	6659.43796
Building Construction	Generator Sets	15	Generator Sets 15	1	8	14	0.74	300	24,864.00	0.042313653	1052.086662
Building Construction	Cranes	600	Cranes 600	1	7	367	0.29	300	223,503.00	0.051529327	11516.95926
Building Construction	Welders	50	Welders 50	1	8	46	0.45	300	49,680.00	0.025812315	1282.355817
Building Construction	Tractors/Loaders/Backhoes	100	Tractors/Loaders/Backhoes 100	3	7	84	0.37	300	195,804.00	0.056488273	11060.6299
Paving	Pavers	100	Pavers 100	2	8	81	0.42	20	10,886.40	0.056536354	615.4773657
Paving	Paving Equipment	100	Paving Equipment 100	2	8	89	0.36	20	10,252.80	0.059586515	610.9286182
Paving	Rollers	50	Rollers 50	2	8	36	0.38	20	4,377.60	0.057851044	253.2487304
Architectural Coating	Air Compressors	50	Air Compressors 50	1	6	37	0.48	20	2,131.20	0.027574332	58.76641691

46,170.27

Notes:

Source of usage estimates: California Air Resource Board (CARB). 2024. OFFROAD2021 (v1.0.5) Emissions Inventory

Website: https://arb.ca.gov/emfac/offroad/emissions-inventory/21d33152fb51a3d56eeba52cc9a2a7b426d5034f. Accessed January 31, 2024.

0.0015% 0.004%

Operational Fuel Calculation—Project-Generated Operational Trips

Total Operational VMT

Seal Beach HE Update Project

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	1,798	1,798	1,798	656,212	17,847	17,847	17,847	6,514,003
Apartments Low Rise	5,682	5,682	5,682	2,073,864	256,402	56,402	56,402	20,586,589
Apartments High Rise	2,569	2,569	2,569	937,517	25,497	25,497	25,497	9,306,433
							Total Annual VMT	36,407,025

Vehicle Type	Fraction of 1	Annual VMT	Gasoline		Diesel		Electric		
			VMT	Consumption	VMT	Consumption	VMT	Consumption	
Passenger Cars (LDA, LDT1, LDT2, MDV)	0.9236	33,625,528	31,463,781	1,069,206	124,755	3,881	2,036,992	786,447	
Trucks (HHDT, MHDT, LHDT1, LHDT2)	0.0701	2,552,132	848,520	61,979	1,551,371	125,861	152,241	106,883	
Motor Homes and Buses (MCY, MH, OBUS, SBUS, UI	0.0063	229,364	196,061	6,171	31,265	3,679	2,038	2,294	
Total	*1.0000*	*36,407,025*	*32,508,363*	*1,137,357*	*1,707,391*	*133,422*	*2,191,271*	*895,624*	*36,407,025*

*Note: Fleet mix pulled from CalEEMod defaults

13,629,998,406

3,067,876,790

Model Output: OFFROAD2021 (v1.0.5) Emissions Inventory
Region Type: County
Region: Orange
Calendar Year: 2025
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2021 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	CalYr	Vehicle Class + HP Bin	Model Year	Fuel	Fuel Consumption (gallons/year)	Horsepower Hours (HP-hours/year)	Fuel Efficiency (gallons/HP-hour)
Orange	2025	Bore/Drill Rigs 100	Aggregate	Diesel	8047.956398	143130.4005	0.056228141
Orange	2025	Bore/Drill Rigs 175	Aggregate	Diesel	57784.34477	1149682.507	0.050261132
Orange	2025	Bore/Drill Rigs 300	Aggregate	Diesel	68721.21865	1368634.032	0.050211537
Orange	2025	Bore/Drill Rigs 50	Aggregate	Diesel	2727.061314	48627.6513	0.056080465
Orange	2025	Bore/Drill Rigs 600	Aggregate	Diesel	98845.90753	1984167.838	0.049817312
Orange	2025	Bore/Drill Rigs 75	Aggregate	Diesel	10526.74281	186862.1108	0.056334282
Orange	2025	Cranes 100	Aggregate	Diesel	3730.920371	45691.9119	0.081653847
Orange	2025	Cranes 175	Aggregate	Diesel	27948.95982	473921.8272	0.058973776
Orange	2025	Cranes 25	Aggregate	Diesel	7.504915654	133.8240616	0.056080465
Orange	2025	Cranes 300	Aggregate	Diesel	90421.6181	1699779.135	0.053196098
Orange	2025	Cranes 50	Aggregate	Diesel	317.4093014	3720.171057	0.085321158
Orange	2025	Cranes 600	Aggregate	Diesel	126004.2459	2445291.882	0.051529327
Orange	2025	Cranes 75	Aggregate	Diesel	1233.65802	15719.7116	0.078478413
Orange	2025	Crawler Tractors 100	Aggregate	Diesel	41846.36245	718287.4958	0.058258514
Orange	2025	Crawler Tractors 175	Aggregate	Diesel	151203.9201	2978733.396	0.050761146
Orange	2025	Crawler Tractors 300	Aggregate	Diesel	187184.9854	3693148.302	0.050684394
Orange	2025	Crawler Tractors 50	Aggregate	Diesel	1593.150587	24985.74282	0.063762386
Orange	2025	Crawler Tractors 600	Aggregate	Diesel	328163.2929	6614937.188	0.049609434
Orange	2025	Crawler Tractors 75	Aggregate	Diesel	10863.53913	181145.8738	0.05997122
Orange	2025	Excavators 100	Aggregate	Diesel	104118.9426	1848175.565	0.056336067
Orange	2025	Excavators 175	Aggregate	Diesel	587497.315	11642564.64	0.05046116
Orange	2025	Excavators 25	Aggregate	Diesel	4.492051707	80.10011468	0.056080465
Orange	2025	Excavators 300	Aggregate	Diesel	628568.0585	12464545.5	0.050428478
Orange	2025	Excavators 50	Aggregate	Diesel	168671.7025	3006740.712	0.056097854
Orange	2025	Excavators 600	Aggregate	Diesel	725662.1502	14423719.46	0.050310334
Orange	2025	Excavators 75	Aggregate	Diesel	133908.8034	2382098.988	0.056214626
Orange	2025	Graders 100	Aggregate	Diesel	4309.538077	71459.00663	0.060307836
Orange	2025	Graders 175	Aggregate	Diesel	68870.6614	1279438.83	0.053828804
Orange	2025	Graders 300	Aggregate	Diesel	227458.8536	4470068.303	0.050884872
Orange	2025	Graders 50	Aggregate	Diesel	528.6503952	8762.07119	0.060333953
Orange	2025	Graders 600	Aggregate	Diesel	54993.71001	1090934.916	0.050409707
Orange	2025	Graders 75	Aggregate	Diesel	2023.520067	27565.68917	0.0734072
Orange	2025	Bore/Drill Rigs 15	Aggregate	Diesel	14.84514218	0	0
Orange	2025	Bore/Drill Rigs 25	Aggregate	Diesel	68.74970391	0	0
Orange	2025	Cement And Mortar Mixers 15	Aggregate	Diesel	102.4155322	0	0
Orange	2025	Cement And Mortar Mixers 25	Aggregate	Diesel	19.9940538	0	0
Orange	2025	Concrete/Industrial Saws 25	Aggregate	Diesel	13.71482815	0	0
Orange	2025	Concrete/Industrial Saws 50	Aggregate	Diesel	4770.55	114186.6	0.041778545
Orange	2025	Dumpers/Tenders 25	Aggregate	Diesel	9.869450947	0	0
Orange	2025	Excavators 25	Aggregate	Diesel	70.49524482	0	0
Orange	2025	Other 15	Aggregate	Diesel	225.6256843	0	0
Orange	2025	Other 25	Aggregate	Diesel	36.87567026	0	0
Orange	2025	Pavers 25	Aggregate	Diesel	18.52927664	0	0
Orange	2025	Paving Equipment 25	Aggregate	Diesel	31.49191056	0	0
Orange	2025	Plate Compactors 15	Aggregate	Diesel	88.09380801	0	0
Orange	2025	Rollers 15	Aggregate	Diesel	319.481019	0	0
Orange	2025	Rollers 25	Aggregate	Diesel	221.0333329	0	0
Orange	2025	Rubber Tired Loaders 25	Aggregate	Diesel	12.82136126	0	0
Orange	2025	Signal Boards 15	Aggregate	Diesel	1377.029059	0	0
Orange	2025	Signal Boards 50	Aggregate	Diesel	2102.4	47267.5	0.044478764
Orange	2025	Skid Steer Loaders 25	Aggregate	Diesel	3632.492465	0	0
Orange	2025	Tractors/Loaders/Backhoes 25	Aggregate	Diesel	337.3350078	0	0
Orange	2025	Trenchers 15	Aggregate	Diesel	126.503726	0	0

Orange	2025	Trenchers 25	Aggregate	Diesel	327.6747419	0	0
Orange	2025	Off-Highway Tractors 100	Aggregate	Diesel	23758.49872	422684.1397	0.056208635
Orange	2025	Off-Highway Tractors 175	Aggregate	Diesel	129148.7508	2564191.879	0.050366258
Orange	2025	Off-Highway Tractors 300	Aggregate	Diesel	57920.67328	1155692.929	0.050117702
Orange	2025	Off-Highway Tractors 50	Aggregate	Diesel	28406.58821	494337.0239	0.057464011
Orange	2025	Off-Highway Tractors 600	Aggregate	Diesel	152814.986	3092350.713	0.049417094
Orange	2025	Off-Highway Tractors 75	Aggregate	Diesel	24896.68206	428381.5809	0.058118003
Orange	2025	Off-Highway Trucks 100	Aggregate	Diesel	645.2765976	11506.26325	0.056080465
Orange	2025	Off-Highway Trucks 175	Aggregate	Diesel	33274.11327	660043.1152	0.05041203
Orange	2025	Off-Highway Trucks 300	Aggregate	Diesel	77912.23009	1550989.375	0.05023389
Orange	2025	Off-Highway Trucks 50	Aggregate	Diesel	1215.570396	21675.46913	0.056080465
Orange	2025	Off-Highway Trucks 600	Aggregate	Diesel	573074.9857	11427939.27	0.050146835
Orange	2025	Off-Highway Trucks 75	Aggregate	Diesel	1359.024354	22603.7471	0.060123852
Orange	2025	Pavers 100	Aggregate	Diesel	14480.20603	256122.0342	0.056536354
Orange	2025	Pavers 175	Aggregate	Diesel	48715.56932	965140.7252	0.050475095
Orange	2025	Pavers 300	Aggregate	Diesel	59154.13573	1172535.869	0.050449745
Orange	2025	Pavers 50	Aggregate	Diesel	2630.939589	46229.38633	0.056910545
Orange	2025	Pavers 600	Aggregate	Diesel	10476.3768	209394.1281	0.050031856
Orange	2025	Pavers 75	Aggregate	Diesel	13394.8975	235734.0187	0.056822081
Orange	2025	Paving Equipment 100	Aggregate	Diesel	8237.251878	138240.2028	0.059586515
Orange	2025	Paving Equipment 175	Aggregate	Diesel	54084.53736	1068816.847	0.05060225
Orange	2025	Paving Equipment 300	Aggregate	Diesel	24361.59164	481587.9282	0.050585968
Orange	2025	Paving Equipment 50	Aggregate	Diesel	6793.258491	119265.0548	0.056959337
Orange	2025	Paving Equipment 600	Aggregate	Diesel	57739.53475	1150296.137	0.050195365
Orange	2025	Paving Equipment 75	Aggregate	Diesel	4935.770453	88012.29484	0.056080465
Orange	2025	Rollers 100	Aggregate	Diesel	40676.60129	700979.0809	0.058028267
Orange	2025	Rollers 175	Aggregate	Diesel	233843.3844	4622563.726	0.050587379
Orange	2025	Rollers 300	Aggregate	Diesel	20126.07946	390708.7805	0.051511715
Orange	2025	Rollers 50	Aggregate	Diesel	65650.46014	1134818.934	0.057851044
Orange	2025	Rollers 600	Aggregate	Diesel	16280.52885	330715.3023	0.04922823
Orange	2025	Rollers 75	Aggregate	Diesel	26095.92961	462173.0614	0.056463545
Orange	2025	Rough Terrain Forklifts 100	Aggregate	Diesel	58194.07133	1005509.271	0.057875221
Orange	2025	Rough Terrain Forklifts 175	Aggregate	Diesel	374083.8757	7410863.024	0.050477775
Orange	2025	Rough Terrain Forklifts 300	Aggregate	Diesel	3193.989513	62262.30311	0.05129893
Orange	2025	Rough Terrain Forklifts 50	Aggregate	Diesel	2092.573628	37313.77075	0.056080465
Orange	2025	Rough Terrain Forklifts 600	Aggregate	Diesel	910.1322636	18007.09776	0.050542973
Orange	2025	Rough Terrain Forklifts 75	Aggregate	Diesel	83132.66172	1474044.019	0.056397679
Orange	2025	Rubber Tired Dozers 100	Aggregate	Diesel	2840.834499	48071.95498	0.059095464
Orange	2025	Rubber Tired Dozers 175	Aggregate	Diesel	8841.300714	174865.2787	0.050560642
Orange	2025	Rubber Tired Dozers 300	Aggregate	Diesel	11067.85188	219207.8885	0.050490208
Orange	2025	Rubber Tired Dozers 50	Aggregate	Diesel	617.8911745	6702.315588	0.092190701
Orange	2025	Rubber Tired Dozers 600	Aggregate	Diesel	58584.64601	1291528.788	0.045360697
Orange	2025	Rubber Tired Dozers 75	Aggregate	Diesel	1358.718182	21607.24532	0.062882527
Orange	2025	Rubber Tired Loaders 100	Aggregate	Diesel	50440.1934	879117.7682	0.057375923
Orange	2025	Rubber Tired Loaders 175	Aggregate	Diesel	382550.4847	7569437.293	0.050538827
Orange	2025	Rubber Tired Loaders 300	Aggregate	Diesel	719017.2735	14266532.67	0.05039888
Orange	2025	Rubber Tired Loaders 50	Aggregate	Diesel	3992.679395	67437.96245	0.05920522
Orange	2025	Rubber Tired Loaders 600	Aggregate	Diesel	554582.3176	11083273.54	0.050037772
Orange	2025	Rubber Tired Loaders 75	Aggregate	Diesel	30894.19523	535259.5018	0.057718163
Orange	2025	Scrapers 100	Aggregate	Diesel	1521.020472	24043.73784	0.063260566
Orange	2025	Scrapers 175	Aggregate	Diesel	12301.15724	238516.1225	0.051573693
Orange	2025	Scrapers 300	Aggregate	Diesel	179872.0337	3432258.382	0.052406321
Orange	2025	Scrapers 50	Aggregate	Diesel	175.5888662	1500.983487	0.116982544
Orange	2025	Scrapers 600	Aggregate	Diesel	633526.4096	13286580.24	0.047681676
Orange	2025	Scrapers 75	Aggregate	Diesel	1252.787239	20099.42569	0.062329504
Orange	2025	Skid Steer Loaders 100	Aggregate	Diesel	230761.6787	4109400.757	0.056154581
Orange	2025	Skid Steer Loaders 175	Aggregate	Diesel	67798.38672	1342350.673	0.05050721
Orange	2025	Skid Steer Loaders 300	Aggregate	Diesel	5546.090085	109943.4623	0.050444928
Orange	2025	Skid Steer Loaders 50	Aggregate	Diesel	63936.44225	1115784.766	0.05730177
Orange	2025	Skid Steer Loaders 600	Aggregate	Diesel	3852.461967	76369.65873	0.050444928
Orange	2025	Skid Steer Loaders 75	Aggregate	Diesel	454481.9497	8083366.967	0.056224337
Orange	2025	Surfacing Equipment 100	Aggregate	Diesel	1667.41534	24301.16706	0.06861462
Orange	2025	Surfacing Equipment 175	Aggregate	Diesel	6163.578159	121520.0276	0.050720678

Orange	2025	Surfacing Equipment 300	Aggregate	Diesel	7215.037953	141039.1791	0.051156267
Orange	2025	Surfacing Equipment 50	Aggregate	Diesel	732.5983429	11199.20912	0.065415186
Orange	2025	Surfacing Equipment 600	Aggregate	Diesel	41383.53328	822464.2522	0.050316513
Orange	2025	Surfacing Equipment 75	Aggregate	Diesel	1250.68493	19736.1493	0.063370261
Orange	2025	Tractors/Loaders/Backhoes 100	Aggregate	Diesel	700686.4623	12404104.76	0.056488273
Orange	2025	Tractors/Loaders/Backhoes 175	Aggregate	Diesel	742452.0073	14668171.59	0.050616534
Orange	2025	Tractors/Loaders/Backhoes 25	Aggregate	Diesel	15.15233424	270.1891674	0.056080465
Orange	2025	Tractors/Loaders/Backhoes 300	Aggregate	Diesel	314515.8355	6228391.036	0.050497124
Orange	2025	Tractors/Loaders/Backhoes 50	Aggregate	Diesel	65944.63594	1115802.968	0.05910061
Orange	2025	Tractors/Loaders/Backhoes 600	Aggregate	Diesel	239665.0947	4769953.061	0.050244749
Orange	2025	Tractors/Loaders/Backhoes 75	Aggregate	Diesel	299556.8192	5234721.391	0.057224979
Orange	2025	Trenchers 100	Aggregate	Diesel	7842.968073	137395.109	0.057083313
Orange	2025	Trenchers 175	Aggregate	Diesel	12803.38088	251592.4386	0.050889371
Orange	2025	Trenchers 300	Aggregate	Diesel	7693.547354	151975.9281	0.05062346
Orange	2025	Trenchers 50	Aggregate	Diesel	20237.57453	354993.7389	0.057008258
Orange	2025	Trenchers 600	Aggregate	Diesel	12489.37165	252381.5336	0.049486076
Orange	2025	Trenchers 75	Aggregate	Diesel	6504.12176	110639.6964	0.058786511
Orange	2025	Air Compressors 50	Aggregate	Diesel	91947.15	3334519.55	0.027574332
Orange	2025	Generator Sets 15	Aggregate	Diesel	253335.55	5987087.7	0.042313653
Orange	2025	Welders 50	Aggregate	Diesel	422016.65	16349430.4	0.025812315

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: Orange
Calendar Year: 2029
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT = Vehicle Miles Traveled
FE = Fuel Economy

						Given				*Calculations*	
Region	Calendar Year	Vehicle Class	Model Year	Speed	Fuel	Population	VMT	Energy Consumption	Fuel Consumption	FE (mi/gallon)/(mi/kWh)	VMT*FE
Orange	2029	HHDT	Aggregate	Aggregate	Diesel	12191.4017	1327935.748	0	207.4294256	6.40186774	8501269.027
Orange	2029	LDA	Aggregate	Aggregate	Diesel	1925.877657	58348.44754	0	1.287785666	45.30912952	2643717.367
Orange	2029	LDT1	Aggregate	Aggregate	Diesel	2.902217211	55.85633946	0	0.002102861	26.56206625	1483.659789
Orange	2029	LDT2	Aggregate	Aggregate	Diesel	2216.820715	89349.39377	0	2.549871681	35.04074124	3130868.987
Orange	2029	LHDT1	Aggregate	Aggregate	Diesel	24434.47216	1013330.39	0	47.8258656	21.18791531	21470358.48
Orange	2029	LHDT2	Aggregate	Aggregate	Diesel	10948.49634	447485.6852	0	24.82858777	18.02300193	8065035.366
Orange	2029	MDV	Aggregate	Aggregate	Diesel	4422.111559	168242.7577	0	6.460445706	26.04197377	4381373.483
Orange	2029	MH	Aggregate	Aggregate	Diesel	3027.333223	29055.74108	0	2.863629808	10.14647249	294813.2775
Orange	2029	MHDT	Aggregate	Aggregate	Diesel	29061.59525	1142312.203	0	125.2548755	9.119902108	10417775.47
Orange	2029	OBUS	Aggregate	Aggregate	Diesel	526.8225109	37172.07412	0	4.920352281	7.554758684	280826.0498
Orange	2029	SBUS	Aggregate	Aggregate	Diesel	651.9418709	13265.18631	0	1.761992045	7.528516574	99867.17503
Orange	2029	HHDT	Aggregate	Aggregate	Electricity	522.0698146	52092.53799	94345.67217	0	0.552145496	28762.66024
Orange	2029	LDA	Aggregate	Aggregate	Electricity	98016.32358	4514188.416	1742849.305	0	2.590119756	11692288.6
Orange	2029	LDT1	Aggregate	Aggregate	Electricity	662.9227227	32054.50283	12375.6837	0	2.590119756	83025.00105
Orange	2029	LDT2	Aggregate	Aggregate	Electricity	8828.976102	304521.1035	117570.2794	0	2.590119756	788746.1262
Orange	2029	LHDT1	Aggregate	Aggregate	Electricity	3159.739873	197245.2106	111020.6576	0	1.776653236	350436.3417
Orange	2029	LHDT2	Aggregate	Aggregate	Electricity	825.914217	49071.70376	27641.13103	0	1.77531461	87117.71263
Orange	2029	MDV	Aggregate	Aggregate	Electricity	8994.905126	308794.0816	119220.0016	0	2.590119756	799813.6512
Orange	2029	MHDT	Aggregate	Aggregate	Electricity	1742.62018	87359.31243	91767.73915	0	0.95196104	83162.66194
Orange	2029	OBUS	Aggregate	Aggregate	Electricity	36.31806959	2640.030273	2751.818001	0	0.959376773	2532.783724
Orange	2029	SBUS	Aggregate	Aggregate	Electricity	71.74051726	2213.73253	2559.741896	0	0.864826463	1914.494474
Orange	2029	UBUS	Aggregate	Aggregate	Electricity	5.944034594	327.053411	695.8022999	0	0.470037841	153.7274793
Orange	2029	HHDT	Aggregate	Aggregate	Gasoline	4.943091464	533.4895587	0	0.114806492	4.646858793	2479.050647
Orange	2029	LDA	Aggregate	Aggregate	Gasoline	1034856.174	41149375.45	0	1241.885608	33.13459404	1363467851
Orange	2029	LDT1	Aggregate	Aggregate	Gasoline	91581.52842	3277866.345	0	119.5500421	27.41836211	89873726.39
Orange	2029	LDT2	Aggregate	Aggregate	Gasoline	555722.2366	22415240.23	0	825.9977049	27.13717011	608286187.2
Orange	2029	LHDT1	Aggregate	Aggregate	Gasoline	40268.54793	1609503.505	0	104.948662	15.33610314	24683511.75
Orange	2029	LHDT2	Aggregate	Aggregate	Gasoline	6367.767391	235311.5961	0	17.70025781	13.29424682	3128290.439
Orange	2029	MCY	Aggregate	Aggregate	Gasoline	53993.0701	341399.2508	0	7.997771221	42.68679878	14573241.12
Orange	2029	MDV	Aggregate	Aggregate	Gasoline	331005.2666	12853071.73	0	582.5334921	22.06409057	283591338.7
Orange	2029	MH	Aggregate	Aggregate	Gasoline	5192.597132	52456.55971	0	10.74280936	4.882946161	256142.5569
Orange	2029	MHDT	Aggregate	Aggregate	Gasoline	6434.040691	304742.1499	0	57.27871773	5.320338198	1621331.3
Orange	2029	OBUS	Aggregate	Aggregate	Gasoline	761.1596295	30255.30829	0	5.525730761	5.475349704	165658.3933
Orange	2029	SBUS	Aggregate	Aggregate	Gasoline	702.653337	31753.64333	0	3.510382783	9.04563556	287231.8853
Orange	2029	UBUS	Aggregate	Aggregate	Gasoline	258.4023617	42628.96157	0	3.268690854	13.0416009	555949.9035

Passenger Cars (LDA, LDT1, LDT2, MDV)	gas	diesel	elec
Sum of VMT*FE (Column BI)	2345219103	10157443.5	13363873.4
Total VMT	79695553.8	315996.4553	5159558.1
Weighted Average Fuel Economy	29.4272264	32.14416911	2.59011976
Percentage	94%	0%	6%
Trucks (HHDT, MHDT, LHDT1, LHDT2)			
Sum of VMT*FE (Column BI)	29435612.5	48454438.34	549479.376
Total VMT	2150090.74	3931064.026	385768.765
Weighted Average Fuel Economy	13.6904048	12.32603642	1.42437498
Percentage	33%	61%	6%
Motor Homes and Buses (MCY, MH, OBUS, SBUS, UBUS)			
Sum of VMT*FE (Column BI)	15838223.9	675506.5023	4601.00568
Total VMT	498493.724	79493.00151	5180.81621
Weighted Average Fuel Economy	31.772163	8.497685198	0.8880851
Percentage	85%	14%	1%

Building Energy

From CalEEMod Results Tab 5.11.1

Land Use	Electricity (kWh/yr)	Natural Gas (kBTU/yr)
Apartments Mid Rise	1,451,670.30	4,398,309.79
Apartments Low Rise	3,232,943.00	13,745,684.00
Apartments High Rise	1,957,555.41	5,931,054.11
Totals*	***6,642,169***	***24,075,048***

*does not account for implementation of any mitigation

Appendix C
Biological Resources
Technical Report

CITY OF SEAL BEACH HOUSING ELEMENT AND ZONING CODE UPDATES

Biological Resources Technical Report

October 25, 2024

Prepared for:
City of Seal Beach
Community Development Department
211 Eighth Street
Seal Beach, CA 90740

Prepared by:
Stantec Consulting Services Inc.

Project Number:
2042665000

The conclusions in the Report titled City of Seal Beach Housing Element and Zoning Code Updates Project Biological Resources Technical Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

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Acronyms / Abbreviations

BGEPA	Bald and Golden Eagle Protection Act
BRTR	Biological Resources Technical Report
CCC	California Coastal Commission
CCMP	California Coastal Management Program
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
City	City of Seal Beach
County	Orange County
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CZMA	Coastal Zone Management Area
DCH	Designated Critical Habitat
ºF	Fahrenheit
FESA	Federal Endangered Species Act
FGC	Fish and Game Code
FR	Federal Register
GIS	Geographic Information Systems
HCP	Habitat Conservation Plan
IPaC	Information for Planning and Consulting
LCP	Local Coastal Program
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPR	Navigable Waters Protection Rule
NWR	National Wildlife Refuge
Project	City of Seal Beach Housing Element and Zoning Code Updates Project
OCTA	Orange County Transportation Authority

RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
Stantec	Stantec Consulting Services Inc.
TNW	Traditional navigable waters
USC	United States Code
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
WOTUS	Waters of the United States

1 Introduction

This Biological Resources Technical Report (BRTR) is intended to document the biological resources that are associated with the City of Seal Beach Housing Element and Zoning Code Updates Project (Project) located in the City of Seal Beach (City), California (refer to Appendix A, Figure 1). The analyses presented within this BRTR are intended to support planning and regulatory agency permitting and associated documentation.

There were no site visits/surveys conducted for this BRTR. All information was gathered via desktop review of the eight Housing Opportunity Sites and Main Street Program (Project area).

1.1 Project Background and Purpose

According to the City of Seal Beach's General Plan and zoning designations, there is currently a need for additional housing to comply with the Regional Housing Needs Assessment. The Housing Element Update identifies housing conditions and needs within the City of Seal Beach and establishes policies and programs that comprise the City's strategy to accommodate project housing needs, including needs of lower-income housing and special-needs populations. State law requires that where the number of sites do not meet the City's assigned housing need, the Housing Element must identify actions to accommodate this need. Therefore, the City of Seal Beach is proposing to redevelop/convert underutilized residentially zoned sites and rezone additional locations to remedy this shortfall. The City of Seal Beach adopted the City's Housing Element Update in early 2022. It was further updated in August 2023 to bring the element into compliance with state legislation and the current Southern California Association of Governments. An Initial Study was prepared in November 2023 for the City to evaluate the potential environmental impacts associated with implementation of the Housing Element Update. The Housing Element Update was then updated again in March 2024 in response to comments received from the California Department of Housing and Community Development. The most up to date version of the Housing Element Update is from August 2024. The purpose of this report is to provide technical analyses for the potential environmental impacts associate with Project implementation at the selected development sites.

1.2 Project Description

The City of Seal Beach is proposing implementation of the City's Housing Element Updates and its resulting zoning code update and rezoning program. The updated Housing Element has identified sites throughout the City with potential to provide additional housing (Housing Opportunity Sites).

The City of Seal Beach has almost no vacant residentially zoned developable land remaining, and large areas of vacant land are not available for development due to environmental restrictions or federal ownership. The eight Housing Opportunity Sites that have been selected can be categorized in two ways: Underutilized Sites that do not require zoning code changes, and Candidate Sites for Rezoning. Additionally, the Project area includes the Main Street Program area. The eight Housing Opportunity Sites

selected and the Main Street Program total approximately 104.45 acres with a developable acreage of 56.05 acres and are the subject of environmental analysis for this report.

1.3 Project Location

The City of Seal Beach is located at the northwestern edge of Orange County (County), California. It borders the City of Long Beach and Los Angeles County to the northwest, the Orange County Cities of Los Alamitos to the north, Westminster to the east, Huntington Beach to the southeast, and the Pacific Ocean to the southwest. The Project area is comprised of eight Housing Opportunity Sites and the Main Street Program area, totaling approximately 104.45 acres. However, the majority of the Housing Opportunity Sites and Main Street Program would only allow for development within portions of the overall sites due to existing development; therefore, the total developable area for the Housing Opportunity Sites and Main Street Program would total 56.05 acres. The Main Street Program falls within the boundaries of the existing Main Street Specific Plan area located within the City and the development potential for the Main Street Program is not based on potential developable acreage but rather the number of units that could be developed at select locations within the Main Street Specific Plan area. The Project area is located in the City of Seal Beach and falls within the Seal Beach and Los Alamitos United States Geological Survey (USGS) 7.5-minute quadrangles. The locations and descriptions of each are listed in the table below:

Table 1. Housing Opportunity Sites and Main Street Program

Site #	Site Name	Acreage	Developable Acres	U.S. Geological Survey (USGS) Quadrangles	Approximate Centroid Coordinates
1	1780 Pacific Coast	0.23	0.25	Seal Beach	33.74078, -118.09599
2	Leisure World	5.56	5.5	Los Alamitos	33.76584, -118.09206
3	Accurate Storage (1011 Seal Beach Blvd.)	4.49	1.8	Los Alamitos	33.75382, -118.08733
4	Shops at Rossmoor	26.80	12	Los Alamitos	33.78278, -118.07364
5	Old Ranch Town Center	26.06	8.3	Los Alamitos	33.78211, -118.07009
6	Seal Beach Plaza	8.14	1.5	Los Alamitos	33.76097, -118.07853
7	Seal Beach Center	7.92	2.7	Seal Beach	33.74417, -118.10077
8	99 Marina Drive	4.31	3	Seal Beach	33.74661, -118.10985
-	Main Street Program	21	21	Seal Beach	33.74146, -118.10449
	Total	**104.45**	**56.05**		

The Housing Opportunity Sites are separated into two categories according to zoning needs: Underutilized Sites and Candidates for Rezoning.

Underutilized Sites

- *1780 Pacific Coast.* This 0.23-acre site is developed and contains an older commercial building that is currently occupied by a liquor/convenience store. The site is currently zoned Limited Commercial/Residential Medium Density which allows residential use at up to 20 units/acre and normally considered suitable for lower-income housing. It is assumed that the entire site will be redeveloped as residential or mixed-use.

- *Leisure World*. This site is approximately 5.56-acres in size and almost entirely comprised of truck and trailer parking, with a few permanent structures. The north and east boundaries are lined with trees. The site is currently zoned as Residential High Density-Planned Community. It is anticipated that this site will be redeveloped for residential uses.

Candidate Sites for Rezoning

- *Accurate Storage (1011 Seal Beach Blvd.).* This site is approximately 4.49-acres in size and located immediately south of the Boeing Integrated Defense Systems property. The location is currently being used for vehicle and boat storage and is bordered by office, commercial, and light industrial uses to the north and west, by the City Police Station across Adolfo Lopez Drive to the south, and by the Seal Beach Naval Weapons Station across Seal Beach Boulevard to the east. This site is currently zoned as Residential High Density and is suitable for lower-income multi-family development.

- *The Shops at Rossmoor.* This site is approximately 26.80-acres in size and is currently developed as a shopping center. The site is currently zoned as General Commercial. The surface parking area occupies approximately 70 percent of the site or 19 acres. By converting 10 acres of the surface parking to residential housing, the existing development could remain in place.

- *Old Ranch Town Center.* This site is approximately 26.06-acres in size with approximately half of that devoted to surface parking. The remaining 13-acres is developed as shops and restaurants. The site is currently zoned as Commercial General. By converting 5 acres of the surface parking are to residential uses, all retail uses can remain in place and not pose an impediment to residential development.

- *Seal Beach Plaza.* This site is approximately 8.14-acres in size and currently developed with retail and office uses. The site is currently zoned as Commercial Service-Service Commercial. The site is proposed for partial or entire redevelopment.

- *Seal Beach Center.* This site is approximately 7.92-acres and consists of retail uses. The site is currently zoned as Service Commercial. Partial site redevelopment is anticipated and would include a mixed-use building with ground floor retail and residential units above.

- *99 Marina Drive*. This site is approximately 4.31-acres in size and is currently vacant except for an abandoned outdoor handball court. The site is currently zoned as Oil Extraction. It is anticipated that this site will be redeveloped for residential uses.
- *Main Street Program.* This site is approximately 21-acres and is located in downtown Seal Beach and is designated as the commercial core of the city. This site is developed with a mix of offices and retail uses, with a few residential units, and currently zoned under the Main Street Specific Plan. It is anticipated that several underutilized parcels will accommodate residential housing development on this site.

2 Methods

Stantec conducted a literature and database review to evaluate sensitive species that have been documented within the vicinity of the Project and their potential to occur in the Project area based on the presence of habitat.

2.1 Literature Review

A query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted for the Project area and a surrounding ten-mile buffer area to determine special-status plants, wildlife, and sensitive vegetation communities that have been documented within this area (CDFW 2024a). The database included portions of the following quadrangles surrounding the Project area: Seal Beach, Los Alamitos, Long Beach, San Pedro, Newport Beach, Anaheim, Torrance, Orange, La Habra, and Whittier.

The list of special-status plants, animals, and sensitive natural communities documented to occur within the search area is included in Section 5.

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

- Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society [CNPS] 2024);
- CDFW Special Animals List (CDFW 2024b);
- United States Fish and Wildlife Service's (USFWS) Information for Planning and Consulting (IPaC) Species List (USFWS 2024a)
- National Wetlands Inventory (NWI) Geographic Information Systems (GIS) data (USFWS 2024b);
- National Hydrography Dataset (NHD) GIS data (USGS 2024);
- The Jepson Manual (Baldwin, et al. 2012); and
- Aerial imagery of the Project area and surrounding areas.

2.2 Biological Habitat Assessment

Biological field surveys were not conducted for this assessment; however, a desktop review using high-resolution aerial imagery and previously prepared reports in the vicinity were utilized to determine the habitat types located in the project and surrounding areas.

The primary goals of the habitat assessment are to identify and assess the suitability of habitat for special-status plant and wildlife species within the Project area. *A Manual of California Vegetation*

(Sawyer et al. 2009) was consulted to determine the natural communities present in the Project area; however, none of the habitat types identified on aerial imagery met the description for natural community. Therefore, all areas were characterized as land cover types. The land cover types determined to be present within the Project area were evaluated for their potential to support special-status species based on species habitat requirements in the literature and the professional knowledge and experience of Stantec's biologists.

3 Regulatory Environment

3.1 Federal Regulations

3.1.1 NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) of 1969 requires all federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA into other planning requirements and prepare appropriate NEPA documents to facilitate better environmental decision-making. NEPA requires Federal agencies to review and comment on Federal agency environmental plans and documents when the agency has jurisdiction by law or special expertise with respect to any environmental impacts involved (42 United States Code [USC] 4321- 4327; 40 Code of Federal Regulations [CFR 1500-1508]). These guidelines establish an overall federal process for the environmental evaluation of projects.

3.1.2 FEDERAL ENDANGERED SPECIES ACT

Federal Endangered Species Act (FESA) provisions protect federally listed threatened and endangered species and their habitats from unlawful "take" and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of Designated Critical Habitat (DCH). Under FESA, take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The USFWS regulations define harm to mean "an act which actually kills or injures wildlife." Such an act "may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR Section 17.3).

DCH is defined in FESA Section 3(5)(A) as "(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features: (I) essential to the conservation of the species; (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior that such areas are essential for the conservation of the species." The effects analyses for DCH must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. USFWS*.

Activities that may result in "take" of federally listed species are regulated by USFWS. USFWS produced an updated list of candidate species December 6, 2007 (72 Federal Register [FR] 69034). Candidate species are not afforded any legal protection under FESA; however, candidate species typically receive special attention from federal and state agencies during the environmental review process.

3.1.3 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) makes it unlawful to possess, buy, sell, purchase, barter or take any migratory bird listed in Title 50 of CFR Part 10. “Take” is defined as possession or destruction of migratory birds, their nests, and eggs. Disturbances that cause nest abandonment or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. The MBTA prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA encompasses whole birds, parts of birds, bird nests, and eggs.

3.1.4 BALD AND GOLDEN EAGLE PROTECTION ACT OF 1940 (16 USC 668)

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 USC 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: “disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior’’ (72 FR 31132; 50 CFR 22.3).

USFWS is the primary federal authority charged with the management of golden eagles in the United States. A permit for take of golden eagles, including take from disturbance such as loss of foraging habitat, may be required if this Project affects such resources. On November 10, 2009, the USFWS implemented new rules (74 FR 46835) governing the take of golden and bald eagles. The new rules were released under the existing BGEPA, which has been the primary regulatory protection for unlisted eagle populations since 1940.

All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment. If a permit is required, due to the current uncertainty on the status of golden eagle populations in the western United States, it is expected that permits would only be issued for safety emergencies or if conservation measures implemented in accordance with a permit would result in a reduction of ongoing take or a net take of zero.

3.1.5 FISH AND WILDLIFE COORDINATION ACT

The Fish and Wildlife Coordination Act, as amended in 1964, requires that all federal agencies consult with National Marine Fisheries Service (NMFS), USFWS, and state wildlife agencies (i.e., CDFW) when proposed actions might result in modification of a natural stream or body of water. Federal agencies must consider effects that these projects would have on fish and wildlife development and provide for improvement of these resources. The Fish and Wildlife Coordination Act allows NMFS, USFWS, and CDFW to provide comments to United States Army Corps of Engineers (USACE) during review of

projects under Section 404 of the Clean Water Act (concerning the discharge of dredged materials into navigable waters of the United States [WOTUS]) and Section 10 of the Rivers and Harbors Act regarding obstructions in navigable waterways. NMFS comments provided under the Fish and Wildlife Coordination Act are intended to reduce environmental impacts to migratory, estuarine, and marine fisheries and their habitats.

3.1.6 COASTAL ZONE MANAGEMENT ACT

The Coastal Zone Management Act (CZMA) of 1972 establishes national policy to preserve, protect, develop, and, where possible, restore or enhance the resources of the nation's coastal zones. In accordance with Section 307(c) of the CZMA, after approval by the Secretary of Commerce of a state's management program, any applicant for a required federal license or permit to conduct an activity in or outside of the coastal zone affecting any land or water use or natural resource of the coastal zone of that state shall provide in the application to the licensing or permitting agency a certification that the proposed activity complies with the enforceable policies of the state's approved program and that such activity will be conducted in a manner consistent with the program. The federal government certified the California Coastal Management Program (CCMP) in 1977. The enforceable policies of that document are Chapter 3 of the California Coastal Act of 1976.

For all of the California coast except San Francisco Bay, the state agency responsible for implementing the CZMA is the California Coastal Commission (CCC). The CCC is responsible for reviewing proposed federal and federally licensed or permitted activities to assess their consistency with the approved CCMP. Due to its proximity to the Pacific Ocean, Seal Beach is subject to a state mandated Local Coastal Program (LCP) and CCC jurisdiction. A portion of the project is within the Seal Beach LCP.

3.1.7 CLEAN WATER ACT SECTION 404 AND FEDERAL JURISDICTIONAL WATERS

The Clean Water Act (CWA), introduced in 1977 via amendatory legislation of the Federal Water Pollution Control Act, is the primary federal law in the United States regulating water pollution. Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or certain types of excavation within WOTUS and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (individual permits) or for general categories of projects (general permits). Terrestrial WOTUS as defined by the CWA have typically included rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands. Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." The USACE has adopted several revisions to their regulations to more clearly define WOTUS. The protection of federal jurisdictional WOTUS has been particularly contentious and subject to numerous legal decisions since 2001.

1986 Regulations

In 1986, the federal agencies (USACE and United States Environmental Protection Agency [USEPA]) implemented historic regulations (the 1986 Regulations) that defined WOTUS to mean traditional

navigable waters (TNWs), the territorial seas, interstate waters, and intrastate waters whose use or degradation could affect interstate or foreign commence, as well as tributaries of and wetlands adjacent to any of those waters.

2001 Solid Waste Agency of Northern Cook County Ruling

Until the beginning of 2001, WOTUS included, among other things, isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable WOTUS. The jurisdictional extent of USACE regulation changed with the 2001 Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers ruling. The United States Supreme Court held that the USACE could not apply Section 404 of the CWA to extend their jurisdiction over an isolated quarry pit. The Court ruled that the CWA does not extend federal regulatory jurisdiction over non-navigable, isolated, intra-state waters. However, the Court made it clear that non-navigable wetlands adjacent to navigable waters are still subject to USACE jurisdiction.

2006 Rapanos Ruling

In 2006, the United States Supreme Court issued its seminal decision in *Rapanos v. United States (Rapanos).* Justice Scalia narrowly interpreted the statutory term “waters of the United States” in a four-Justice plurality opinion, holding that CWA jurisdiction extended over only “relatively permanent, standing or continuously flowing bodies of water” that are connected to TNWs, plus wetlands with a “continuous surface connection” to such relatively permanent water bodies. Justice Kennedy wrote separately, concurring with the Court’s judgment with respect to the facts of the case, but interpreted “waters of the United States” to include wetlands that possess a “significant nexus” to waters that are or were navigable in fact or that could reasonably be so made.

The Court’s split decision and lack of a commanding majority opinion in *Rapanos* created confusion among the federal agencies and public. In 2008, the federal agencies released a regulatory guidance document, the 2008 Rapanos Guidance (USACE and USEPA 2008) addressing common questions about federal jurisdiction over WOTUS and clarifying the two jurisdictional standards from Rapanos. In the 2008 Rapanos Guidance, the federal agencies concluded that federal jurisdiction existed over certain waterbodies that meet either the “relatively permanent” standard from Justice Scalia’s plurality opinion or Justice Kennedy’s “significant nexus” standard.

2015 Clean Water Act

The 1986 Regulations as interpreted by the 2008 Rapanos Guidance were later replaced by the 2015 Clean Water Rule. The federal agencies attempted to provide clarification on jurisdiction following the Rapanos ruling by replacing the numerous categories of waterbodies found in the 1986 Regulations with three broader categories: waters that are categorically “jurisdictional by rule” without the need for further analysis; waters that are subject to case-specific jurisdictional analysis; and waters that are categorically excluded from jurisdiction. The 2015 Clean Water Rule emphasized the “significant nexus” standard over the “relatively permanent” standard to include additional types of waters in the new “jurisdictional by rule” category. Traditional navigable waters, the territorial seas, interstate waters, tributaries of these waters,

and wetlands adjacent to these waters were all deemed "jurisdictional by rule." The result of the 2015 Clean Water Rule was an expansion in federal jurisdiction over waterbodies that might have otherwise been excluded from the definition of WOTUS on a case-by-case basis under the 1986 Regulations and the Rapanos ruling.

Federal jurisdictional WOTUS protected under the CWA were defined in a final 2015 Clean Water Rule; however, the Sixth Circuit United States Court of Appeals issued an order staying the 2015 Rule nationwide, pending a determination by the court on jurisdiction to review the rule. The 2015 Clean Water Rule was stayed, and the prior 1986 Regulations published in 1986, along with some changes in 2008 as a result of the Rapanos ruling, remained in effect.

2020 Navigable Waters Protection Rule

In 2017, the Trump Administration issued Executive Order 13778, *"Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the 'Waters of the United States' Rule."* The executive order directed the federal agencies to review the 2015 Clean Water Rule for consistency with the policy outlined in Section 1 of the order and to issue a proposed rule rescinding or revising the 2015 Clean Water Rule as appropriate and consistent with law. The federal agencies repealed the 2015 Rule and restored the previous regulatory regime as it existed prior to finalization of the 2015 Clean Water Rule with, *"Definition of 'Waters of the United States'—Recodification of Pre-Existing Rules."*

On January 23, 2020, the federal agencies issued the Navigable Waters Protection Rule (NWPR) to redefine WOTUS. The agencies streamlined the definition to include four simple categories of jurisdictional waters:

1. Traditional navigable waters and the territorial seas;
2. Tributaries of traditional navigable waters and the territorial seas;
3. Certain lakes, ponds, and impoundments of WOTUS; and
4. Wetlands adjacent to other WOTUS.

The NWPR provided clear exclusions for many water features that traditionally have not been regulated, and defined terms in the regulatory text that had never been defined before. Congress, in the CWA, explicitly directed the federal agencies to protect "navigable waters." The intent of the NWPR was to regulate waters and the core tributary systems that provide perennial or intermittent flow and excluded ephemeral waters. The final NWPR fulfilling Executive Order 13788 became effective on June 22, 2020; however, on August 30, 2021, the United States District Court for the District of Arizona vacated the NWPR finding ""fundamental, substantive flaws that cannot be cured without revising or replacing the NWPR's definition."

2023 Revised Definition of "Waters of the United States"

On June 9, 2021, the USACE and USEPA under the Biden Administration announced intent to protect more waterways through environmental regulations, beginning a new rulemaking process that restores

protections put in place before 2015. Following the federal district court decision vacating the NWPR, USEPA and USACE halted implementation of the NWPR and began interpreting WOTUS consistent with the pre-2015 regulatory regime, deciding that prompt replacement of the NWPR through the administrative rulemaking process was vital.

On January 18, 2023, the federal agencies published the final "Revised Definition of 'Waters of the United States'" rule in the Federal Register and the rule became effective on March 20, 2023 (USACE and USEPA 2023). The 2023 Rule establishes a clear and reasonable definition of WOTUS and exercises their discretion under the statute to return generally to the familiar pre-2015 definition that has bounded the CWA's protections for decades. The implications of the final 2023 WOTUS rule are such that many ephemeral waters not considered protected under the former 2020 NWPR will now be protected.

With the 2023 WOTUS rule, USEPA and USACE interpreted the term WOTUS to include:

1. Traditional navigable waters, the territorial seas, and interstate waters;
2. Impoundments of other jurisdictional WOTUS;
3. Tributaries to either of the above waters, or when the tributaries meet the "relatively permanent" standard or the "significant nexus" standard, (collectively, "jurisdictional tributaries");
4. Wetlands adjacent to traditional waters, wetlands adjacent and with a continuous surface connection to relatively permanent tributaries and impoundments, and wetlands adjacent to other jurisdictional tributaries when those wetlands meet the "significant nexus" standard; and
5. Intrastate lakes and ponds, streams, or wetlands as defined in 1–4 above that meet either the "relatively permanent" standard or the "significant nexus" standard.

For purposes of characterizing a "jurisdictional adjacent wetland" under the 2023 WOTUS Rule, a wetland may be considered "adjacent" to WOTUS if any of the following three criteria are satisfied:

1. The wetland has an unbroken surface or shallow subsurface connection to WOTUS;
2. The wetland is physically separated from WOTUS by man-made dikes or barriers, natural river berms, and the like; or
3. The wetland is reasonably proximate to WOTUS such that the wetland has significant effects on water quality and the aquatic ecosystem of WOTUS.

2023 Sackett Ruling

On May 25, 2023, the U.S. Supreme Court issued its ruling in *Sackett v. Environmental Protection Agency (Sackett)*, which established a more stringent test to determine whether the CWA applies to certain categories of wetland. The Sackett family had backfilled a lot near Priest Lake in Idaho, and in agreeing that the Sacketts' lot is a wetland, the U.S. Court of Appeals for the 9th Circuit applied the test outlined by Justice Kennedy in *Rapanos*: whether there is a "significant nexus" between the wetlands and waters that are covered by the CWA, and whether the wetlands "significantly affect" the quality of those

waters. With *Sackett*, the U.S. Supreme Court unanimously reversed the 9th Circuit's ruling, where in a majority opinion, lower courts were directed to apply a more stringent test in *Rapanos*, in which the CWA applies to a particular wetland only if it blends or flows into a neighboring water that is a channel for interstate commerce. While the Court decided that it is clear that some "adjacent" wetlands will also qualify under the CWA as "waters of the United States," wetlands that are entirely separate from traditional bodies of water will not qualify. The CWA will apply to wetlands that are "as a practical matter indistinguishable from waters of the United States" because they have a "continuous surface connection" with a larger body of water, "making it difficult to determine where the 'water' ends and the 'wetland' begins."

The result of the *Sackett* ruling is that certain adjacent wetlands formerly protected under the CWA will no longer be federally protected. The USACE and USEPA have acknowledged the *Sackett* ruling and indicated they will interpret the phrase "waters of the United States" consistent with the U.S. Supreme Court's decision in *Sackett*.

Amendment to the 2023 WOTUS Rule

On August 29, 2023, the USEPA and USACE announced a final rule amending the 2023 definition of WOTUS to conform with the recent U.S. Supreme Court decision in Sackett. While EPA's and USACE's 2023 WOTUS rule defining WOTUS was not directly before the Supreme Court, the decision in Sackett made clear that certain aspects of the WOTUS 2023 rule are invalid. The amendments issued are limited and change only parts of the 2023 rule that are invalid under the Sackett decision. For example, the final rule removes the significant nexus test from consideration when identifying tributaries and other waters as federally protected.

Exemptions Under Clean Water Act Section 404

Activities that are exempt under CWA Section 404(f) include

1. Nominal farming, silviculture and ranching activities,
2. (Emergency) maintenance activities,
3. Construction and maintenance of farm ponds, stock ponds, or irrigation ditches or the maintenance of drainage ditches,
4. Construction of temporary sedimentation basins,
5. Any activity with respect to which a State has an approved program under CWA Section 208(b)(4) which meets the requirements of sections 208(b)(4) (B) and (C) (this pertains to certain applicable statewide waste treatment management programs), and
6. Construction or maintenance of farm roads, forest roads, or temporary roads for moving mining equipment.

Exceptions to these exemptions include:

1. Discharge of toxic pollutants, and

2. If it is part of an activity whose purpose is to convert an area of a WOTUS into a use to which it was not previously subject, where the flow and/or circulation of waters may be impaired or the reach of the waters reduced.

Extent of Jurisdiction

The extent of CWA Section 404 jurisdiction for non-tidal waters includes non-isolated aquatic features (including wetlands qualifying under the original federal 1986 standards and non-wetland WOTUS) bound by an "ordinary high water mark" as defined by 33 CFR 328.3(e):

> *"The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."*

Features considered isolated from TNWs and the exemptions listed above are not considered WOTUS under the jurisdiction of CWA Section 404.

3.2 State Regulations

3.2.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) establishes state policy to prevent significant and avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by state lead agencies. Regulations for implementation are found in the CEQA Guidelines published by the California Natural Resources Agency. These guidelines establish an overall state of California process for the environmental evaluation of projects.

3.2.2 CALIFORNIA ENDANGERED SPECIES ACT

Provisions of the California Endangered Species Act (CESA) protect state-listed threatened and endangered species. The CDFW regulates activities that may result in take of individuals (i.e., take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of take under the California Fish and Game Code (FGC). Additionally, the FGC contains lists of vertebrate species designated as "fully protected" (FGC Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]). Such species may not be taken or possessed.

In addition to federal and State-listed species, the CDFW also has produced a list of Species of Special Concern (SSC) to serve as a "watch list." Species on this list are of limited distribution or the extent of

their habitats has been reduced substantially, such that threat to their populations may be imminent. SSC may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under the FGC. FGC Section 3503.5 states that it is "unlawful to 'take', possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to 'take', possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by the CDFW. Under Sections 3503 and 3503.5 of the FGC, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking, or possessing of any migratory nongame bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to FGC Section 3800 are prohibited.

3.2.3 SECTION 1602 OF THE CALIFORNIA FISH AND GAME CODE

Section 1602 of the FGC requires any person, state or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that would take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted, the CDFW would determine whether the proposed project may impact fish or wildlife resources.

If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) would be required. A completed CEQA document must be submitted to CDFW before an LSAA would be issued.

3.2.4 PORTER-COLOGNE WATER QUALITY CONTROL ACT

California Regional Water Quality Control Boards (RWQCBs) regulate the "discharge of waste" to "waters of the State". All projects proposing to discharge waste that could affect waters of the State must file a Waste Discharge Report with the appropriate RWQCB. The board responds to the report by issuing Waste Discharge Requirements or by waiving them for that project discharge. Both terms "discharge of waste" and waters of the State are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other "discharge." Isolated wetlands within California, which are no longer considered waters of the State, as defined by Section 404 of the CWA, are addressed under the Porter Cologne Water Quality Control Act.

3.2.5 STATE-REGULATED HABITATS

The State Water Resources Control Board is the state agency (together with the RWQCBs) charged with implementing water quality certification in California.

The CDFW extends the definition of stream to include “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS-defined), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife” (CDFW 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream; that substantially change its bed, channel, or bank; or that use any materials (including vegetation) from the streambed may require that the project applicant enter into an LSAA with the CDFW.

3.2.6 NATIVE PLANT PROTECTION ACT

Under FGC Sections 1900 to 1913, the Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. a Project applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of the NPPA and sections of CEQA that apply to rare or endangered plants.

3.2.7 CALIFORNIA NATIVE PLANT SOCIETY RARE PLANT PROGRAM

The mission of the CNPS Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California’s rare and endangered plants and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern, it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (e.g., listing status, habitat, distribution, threats, etc.) is entered into the online CNPS Rare Plant Inventory and given a California Rare Plant Rank (CRPR). The Rare Plant Program currently recognizes more than 1,600 plant taxa (species, subspecies and varieties) as rare or endangered in California.

Vascular plants listed as rare or endangered by the CNPS, but which might not have a designated status under state endangered species legislation, are defined by the following CRPRs:

- CRPR 1A: Plants considered by the CNPS to be extinct in California
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere
- CRPR 3: Plants about which we need more information – a review list

- CRPR 4: Plants of limited distribution – a watch list

In addition to the CRPR designations above, the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 0.1 to 0.3 ranking, with 0.1 being the most endangered and 0.3 being the least endangered and are described as follows:

- 0.1: Seriously threatened in California (high degree/immediacy of threat)
- 0.2: Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3: Not very threatened in California (low degree or immediacy of threats or no current threats known)

3.2.8 CALIFORNIA COASTAL COMMISSION AND COASTAL ACT OF 1976

The CCC has planning, regulatory, and permitting responsibilities in partnership with local governments over all development taking place within the coastal zone, a 1.5 million-acre area stretching 1,100 miles along the state's coastline from Oregon to Mexico (and around nine offshore islands). The coastal zone extends seaward 3 miles, while its landward boundary varies from several miles inland in places such as the Eel River and the Elkhorn Slough, to as close as a few hundred feet from the shore in other areas.

The CCC's enabling legislation, the Coastal Act of 1976, created a comprehensive coastal protection program grounded in partnerships between CCC and local government jurisdictions (15 counties and 60 cities) within the coastal zone. Among the coastal resources specifically protected within the Coastal Act are public access to the coastline, wetlands and other environmentally sensitive habitat areas, agriculture, low-cost visitor-serving recreational uses, visual resources, commercial and recreational fishing, and community character. Coastal streams and wetlands are also protected under the Coastal Act.

The Coastal Act Section 30231 defines a wetland as:

> *…lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.*

The CCC's regulations (CCR Title 14) establishes a "one parameter definition," which requires evidence of a single parameter to establish wetland conditions:

> *Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577).*

The “one parameter” definition adopted by the Coastal Commission is based on the general definition used by USFWS and CDFW from the USFWS wetlands classification system first published in 1979 (Cowardin et al. 1979):

> *Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.*

The Coastal Act definition of a wetland does not distinguish between wetlands based on their quality. Therefore, under the Coastal Act, poorly functioning or degraded areas that meet the definition of wetlands are subject to wetland protection policies. Due to its proximity to the Pacific Ocean, Seal Beach is subject to a state mandated LCP and CCC jurisdiction. The Project is within the Seal Beach LCP.

3.3 Local Regulations

3.3.1 ORANGE COUNTY GENERAL PLAN – CHAPTER VI. RESOURCE ELEMENT

Natural Resource Component

The Natural Resources Component of the Resources Element of the Orange County General Plan contains policies and programs which are designed to protect and conserve natural resources in the County, including scenic areas such as ridgelines and hillsides, climate, farmlands, native vegetation and wildlife, and mineral resources. It provides a basis for programs which served to implement natural resource conservation goals and policies and establish a framework for additional inventory and resource planning efforts (County of Orange 2005). The Goals, Objectives, and Policies relative to natural resources that apply to the Project are as follows:

Goal 1 Protect wildlife and vegetation resources and promote development that preserves these resources.

- **Objective 1.1** To prevent the elimination of significant wildlife and vegetation through resource inventory and management strategies.
- **Policy 1.** To identify and preserve the significant wildlife and vegetation habitats of the County.

Goal 3 Manage and utilize wisely the County’s landform resources.

- **Objective 3.1.** To minimize to the extent feasible the disruption of significant natural landforms in Orange County.
- **Policy 5**. To protect the unique variety of significant landforms in Orange County through environmental review procedures and community and corridor planning activities.

Open Space Component

The Open Space Component of the Resources Element of the Orange County General Plan is the open space plan for the unincorporated areas of Orange County. This component is the successor to the Open Space Element originally adopted by the Board of Supervisors on June 27, 1973. The preparation of this component is in compliance with State Government Code Sections 65560-65568, which require each city and county to prepare and adopt an open space plan for the comprehensive and long-range preservation of open space land within its jurisdiction (County of Orange 2005).

The Open Space Component contains the necessary goals, objectives, policies, and programs to promote the preservation and protection of resource areas and the protection of the public from potential hazards. The component also functions in a manner to shape the overall urban form of Orange County. To that end, open space facilities such as greenbelts that buffer conflicting land uses or link recreation facilities along regional trails and water courses are desired, as well as areas set aside to preserve cultural-historic resources, significant wildlife habitats, and biotic resources such as oak groves, sycamore/riparian woodlands, and marshlands (County of Orange 2005).

An integral part of the Open Space Component is the Open Space/Conservation Program Map which depicts an open space framework of countywide significance. This framework includes areas of resource concentration such as existing and proposed regional recreation facilities and a system of linkages such as trails and major open space corridors. The implementation programs provide the mechanism by which an integrated open space network can be realized (County of Orange 2005).

The Goals, Objectives, and Policies relative to open space that apply to the Project are as follows:

Goal 1. Retain the character and natural beauty of the environment through the preservation, conservation, and maintenance of open space.

- **Objective 1.1.** To designate open space areas that preserve, conserve, maintain, and enhance the significant natural resources and physical features of unincorporated Orange County.
- **Policy 1.1.** To guide and regulate development of the unincorporated areas of the County to ensure that the character and natural beauty of Orange County is retained.
- **Policy 1.2.** To implement the Open Space Component through a program organization capable of conducting multiple projects at priority locations throughout the County and with sufficient resources, authority, and responsibility to effectively manage the program.
- **Policy 1.3.** To seek out, evaluate, and take advantage of special opportunities to obtain open space as these opportunities become available and when the available open space meets or helps to meet established open space goals and objectives.

Goal 4. Conserve open space lands needed for recreation, education, and scientific activities, as well as cultural-historic preservation.

- **Objective 4.1.** To encourage the conservation of open space lands which provide recreational scenic, scientific, and educational opportunities.
- **Policy 4.1.** To plan for the acquisition, development, maintenance, operation, and financing of open space lands which provide recreational, scenic, aesthetic, scientific, and educational opportunities.

3.3.2 CITY OF SEAL BEACH GENERAL PLAN – OPEN SPACE / RECREATION / CONSERVATION ELEMENT

The City was incorporated in 1915 primarily as a farming community but has grown into a small city within an urbanized region encompassing 11.5 square miles along the Pacific Coast. The City's General Plan provides a comprehensive long-term plan for its character and physical development through appropriate goals, policies, and programs. Planning was formerly focused on expansion, but as much of Seal Beach is now developed, the focus for the future has evolved towards managing and enhancing development. The relevant component of the General Plan is the Niguel Open Space/Recreation/Conservation Element, which addresses the importance of the provision of recreation areas, preservation of natural resources, avoidance of development in hazardous areas; and the establishment of buffers between incompatible land uses (City of Seal Beach 2003). The purpose of the City's Open Space / Recreation / Conservation Element is:

- To define open space and classify various types of open space uses.
- Describe those parcels or areas that are currently being used for open space/recreation and conservation purposes and discuss in concept future open space needs of the community.
- Determine methods to ensure that the present and future needs of the community are met.

Open space is defined as land set aside for outdoor recreation; the preservation of natural resources; managed production of resources; or the safety and general welfare of the community. Recreation land is categorized as land developed for the use and enjoyment of the community, either as active land or passive land. Conservation land is land for the conservation, enhancement, and utilization of natural resources including water and its hydraulic force; water quality; flood control; beach erosion; harbors; wildlife refuge; rivers; soils; forests; minerals; and other natural resources (City of Seal Beach 2003).

3.3.3 SEAL BEACH NATIONAL WILDLIFE REFUGE

The Seal Beach National Wildlife Refuge is approximately 920-acres of salt marsh and upland habitat located within the boundaries of the Naval Weapons Station Seal Beach. This wildlife refuge is one of the last remaining natural, undeveloped areas of coastal Southern California. In 1969, the wetlands were designated by the Navy Preserve and on August 30, 1972, President Richard Nixon signed Public Law 92-408, formally establishing the Seal Beach National Wildlife Refuge. This National Wildlife Refuge is managed by the Department of the Navy and the Fish and Wildlife Service.

3.3.4 ORANGE COUNTY TRANSPORTATION AUTHORITY NATURAL COMMUNITY CONSERVATION PLAN/HABITAT CONSERVATION PLAN

The Orange County Transportation Authority (OCTA) along with the California Department of Transportation, California Department of Fish and Game, and United States Fish and Wildlife Service worked together to create the Orange County Transportation Authority/California Department of Transportation Natural Community Conservation Plan (NCCP) / Habitat Conservation Plan (HCP) in October 2009 with an amendment in 2016 (OCTA 2009). The planning area includes all of Orange County and this plan is meant to work with the existing Orange County planning efforts of the Central Coastal NCCP/HCP and the Southern Orange County HCP.

The plan goals include:

- Provide for the management and conservation of specific covered species within the planning area;
- Preserve, restore, and enhance natural communities and ecosystems that support the specific covered species within the planning area;
- Implement the covered activities in such a way that complies with state and federal fish and wildlife protection laws, including CESA and the FESA;
- Provide a basis for permits necessary to lawfully take specific covered species;
- Provide a way to coordinate and standardize mitigation and compensation requirements of FESA, NCCP, CEQA, and NEPA regarding the impacts of covered activities on the covered species within the planning area;
- Provide an accounting process that will document the net environmental benefits from the NCCP/HCP in exchange for streamlined and timely approval of permits for the Renewed Measure M freeway program;
- Provide a less costly, more efficient project review process that results in greater conservation values than project-by-project, species-by-species review; and
- Provide clear expectations and regulatory predictability for the entities carrying out covered activities within the planning area.

4 Existing Conditions

4.1 Setting

The Project is located within the City of Seal Beach in Orange County, California, and is comprised of eight Housing Opportunity Sites and the Main Street Program which have a total land area of approximately 104.45-acres. Appendix A, Figure 1 shows the Project Location Overview. Average summer high temperatures are approximately 74 degrees Fahrenheit (ºF), average winter low temperatures are approximately 55ºF, and annual precipitation averages 12.26 inches (U.S. Climate Data 2024).

Portions of the Project area are also located within the Coastal Zone and regulated by the California Coastal Commission. Due to its location along the shore of the Pacific Ocean, development, and certain land use policies within the Coastal Zone (all areas south of Westminster Boulevard) are also subject to review by the CCC for consistency with the California Coastal Act of 1976. The City of Seal Beach is in the process of developing a LCP which will implement the Coastal Act at the local level.

The western edge of the City of Seal Beach and directly adjacent to portions of the Project area include shoreline, beaches, and marinas which support areas of biological diversity. The Seal Beach National Wildlife Refuge (NWR), established in 1972, is a protected wetland and marsh located at the Seal Beach Naval Weapons Station. The Seal Beach NWR includes habitats that are essential to migratory birds of the Pacific Flyway, which includes federal- and state-listed species. The Seal Beach NWR is under a Management Plan to 1) preserve habitat necessary for perpetuation of two endangered species, the light-footed Ridgeway's rail, and the California least tern, and 2) preservation of habitat used by migratory waterfowl, shorebirds, and other waterbirds (USFWS 2024c). Other species of concern found in the Seal Beach NWR include the Eastern Pacific green sea turtle, Belding's savannah sparrow, and other year-round species including ospreys, peregrine falcons, red-tailed hawks, great blue herons, great egrets, snowy egrets, brown pelicans, crabs, and snails. There are several winter migration species as well, including Canada, snow, and Ross' geese, various duck species, black-necked stilt, American avocet, black-bellies plover, and least and western sandpipers. Additionally, many California native wildflowers and shrubs occur in this area. Within the aquatic reaches of the wetlands, may also be small rays and sharks within the protected waters of the Seal Beach NWR (USFWS 2024c).

4.2 Vegetation Communities and Land Cover Types

Vegetation communities and other land cover types within the Project area were determined based on review of aerial imagery and are presented below. No vegetation communities classified in the Manual of California Vegetation (Sawyer et al. 2009) are present within the Project area. All areas are categorized as land cover types.

4.2.1 LAND COVER TYPES

Ruderal Herbaceous

Ruderal herbaceous vegetation is generally comprised of non-native or naturalized species that populate previously disturbed areas. Common ruderal species include bull thistle (*Cirsium vulgare*), telegraph weed (*Heterotheca grandiflora*), giant reed (*Arundo donax*), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), wild radish (*Raphanus sativus*), Maltese star-thistle (*Centaurea melitensis*), black mustard (*Brassica nigrea*), and shortpod mustard (*Hirschfeldia incana*).

Disturbed/Developed

This land cover type includes City parks, recreational vehicle storage, a golf course, commercial buildings, paved or graded roadways, concrete pads, landscaped areas. The vegetated areas within this land cover type primarily contain ornamental planters, such as within residential yards and landscaped areas. These areas are generally periodically maintained for weed control, precluding any significant growth of non-ornamental species, but may be sparsely interspersed with ruderal pioneer plant species that readily colonize open disturbed soil. These include bristly oxtongue (*Helminthotheca echioides*), castor bean (*Ricinus communis*), black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), wild radish (*Raphanus raphanistrum*), bull thistle (*Cirsium vulgare*), and non-native grasses. This land cover type is present on all the Housing Opportunity Sites and Main Street Program.

4.3 Topography and Hydrology

Topography in the Project area is relatively flat associated with the coastal plain, with elevation ranging from approximately 0 to 40 feet above mean sea level. The Project area occurs east of the San Gabriel River and north of the Pacific Ocean. According to the National Hydrography Dataset (USGS 2022), the Project area is within three subwatersheds: Coyote Creek-San Gabriel River subwatershed (HU12 180701060606; Housing Opportunity Sites 2 - 6), Huntington Beach – Pacific Ocean (HU12 18070201002; Housing Opportunity Site 8 and Main Street Program), and Anaheim Bay (HU12 180702010001; Sites 1 and 7). The higher-level hydrologic units the subwatershed is nested in are listed in Tables 2 and 3.

Table 2. Hydrologic Units Above the Coyote Creek – San Gabriel River Subwatershed

Unit Level	Hydrologic Unit Code	Name
Region (HU 2)	18	California
Subregion (HU 4)	1807	Southern California Coastal
Basin (HU 6)	180701	Ventura-San Gabriel Coastal Basin
Subbasin (HU 8)	18070106	San Gabriel
Watershed (HU 10)	1807010606	Lower San Gabriel River

Table 3. Hydrologic Units Above the Huntington Beach - Pacific Ocean and Anaheim Bay Subwatersheds

Unit Level	Hydrologic Unit Code	Name
Region (HU 2)	18	California
Subregion (HU 4)	1807	Southern California Coastal
Basin (HU 6)	180702	Santa Ana
Subbasin (HU 8)	18070201	Seal Beach
Watershed (HU 10)	1807020100	Bolsa Chica Channel – Frontal Huntington Harbor

4.4 Soils

Historic soils data from the Natural Resources Conservation Service (NRCS) was used to determine potential soil types that may occur within the Project area (Appendix A, Figures 2). Table 4 identifies the soils historically known to occur within the Project area and provides a summary of characteristics of these soils (NRCS 2024). There are no hydric soils mapped within the Project area.

Table 4. Historic Soil Units Occurring within the Project area

Map Unit Symbol	Map Unit Name	Description	Project Area	Area within Project Area(acres)
123	Bolsa silt loam, drained	A somewhat poorly drained non-hydric soil associated with alluvial fans at elevations between 0 to 680 feet; silt loam (0 to 29 inches), silty clay loam (29 to 69 inches); parent material is made up of mixed alluvium derived from igneous, metamorphic, and sedimentary rock. Minor components include Hueneme, Chino, Metz, Bolsa, Omni, and San Emigdio.	Housing Opportunity Site 4 Shops at Rossmoor	23.50
			Housing Opportunity Site 5 Old Ranch Town Center	26.06
			Housing Opportunity Site 2 Leisure World	5.56
			Total	**55.12**
125	Bolsa silty clay loam, drained	A somewhat poorly drained non-hydric soil associated with alluvial fans at elevations between -10 to 610 feet; silty clay loam (0 to 12 inches), silt loam (12 to 29 inches), silty clay loam (29 to 69 inches); parent material consists of mixed alluvium derived from igneous, metamorphic, and sedimentary rock. Minor components include Chino, Hueneme, and Omni.	Housing Opportunity Site 4 Shops at Rossmoor	3.30
			Housing Opportunity Site 6	8.14

Map Unit Symbol	Map Unit Name	Description	Project Area	Area within Project Area(acres)
			Seal Beach Plaza	
			Total	**11.44**
100	Alo clay, 9 to 15 percent slopes	A well-drained non-hydric soil associated with hillslopes at elevations between 0 to 1,460 feet; clay (0 to 25 inches), bedrock (25 to 59 inches); parent material consists of calcareous residuum weathered from sandstone and shale. Minor components include Balcom, Anaheim, and Bosanko.	Housing Opportunity Site 3 Accurate Storage (1011 Seal Beach Blvd.)	4.49
			Total	**4.49**
173	Myford sandy loam, 2 to 9 percent slopes	A moderately well-drained non-hydric soil associated with terraces at elevations between 0 to 1,560 feet; sandy loam (0 to 12 inches), sandy clay (12 to 18 inches); sandy clay loam (18 to 71 inches), sandy loam (71 to 79 inches); parent material consists of alluvium derived from sandstone. Minor components include Myford, Capistrano, Yorba, Chesterton, and Water.	Housing Opportunity Site 7 Seal Beach Center	1.65
			Total	**1.65**
162	Marina loamy sand, 2 to 9 percent slopes	A somewhat excessively drained non-hydric soil associated with dunes at elevations between 0 to 1,330 feet; loamy sand (0 to 33 inches), sand (33 to 80 inches); parent material consists of old eolian sands. Minor components include Marina, Myford, and an unnamed soil.	Housing Opportunity Site 8 99 Marina Drive	4.31
			Main Street Program	21
			Housing Opportunity Site 7 Seal Beach Center	6.27
			Housing Opportunity Site 1 1780 Pacific Coast	0.23
			Total	**20.01**
			Overall Total	**104.45**

4.5 Aquatic Resources

4.5.1 COASTAL ZONE

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California, including the coastal zone: the USACE Regulatory Program regulates activities pursuant to Section 404 of the federal CWA and Section 10 of the Rivers and Harbors Act; the CDFW regulates activities under the FGC Sections 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Housing Opportunity Sites 1, 3, 7, 8, and Main Street Program, fall within the Coastal Zone (Appendix A, Figure 5-1). Development within these areas will require coordination with CCC and a Coastal Development Permit for the Project, which would require that the Project adhere to the policies of the California Coastal Act.

4.5.2 NATIONAL WETLANDS INVENTORY

The National Wetlands Inventory (NWI) has mapped a variety of wetland and water resources within and adjacent to the Project area (see Appendix A, Figure 3). These features include Estuarine and Marine Deepwater, Estuarine and Marine Wetland, Freshwater Emergent Wetland, Freshwater Forested/Shrub Wetland, Freshwater Pond, and Riverine (USFWS 2024b).

The San Gabriel River flows west of the Project area and the Pacific Ocean is south of the Project area. The Los Alamitos Channel, a concrete lined riverine feature, flows directly to the west of Housing Opportunity Site 2 (Leisure World). The remaining wetlands and waters features are more than 100 feet from the Housing Opportunity Sites and Main Street Program.

A formal jurisdictional delineation was not conducted as part of this assessment. The Los Alamitos Channel is a known WOTUS because it is a tributary to the San Gabriel River. The San Gabriel River is also a known WOTUS. Additionally, these areas would qualify as Waters of the State and CDFW jurisdictional waters.

4.6 Common Wildlife

This section describes the common wildlife species expected to occur within the Project area based on habitat characteristics and species known to occur in the region.

4.6.1 TERRESTRIAL INVERTEBRATES

As in all ecological systems, invertebrates inhabiting the Project area play a crucial role in several biological processes. They serve as the primary or secondary food sources for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. Though heavily urbanized, habitat conditions within the Project area provide a suite of microhabitat conditions for a wide variety of

terrestrial insects and other invertebrates that are known to adapt to such disturbance. A focused insect survey was not performed within the Project area for this Project; however, a variety of common insects are expected to be present within the Project area.

4.6.2 FISH

There is no flowing water identified within the Project area; therefore, there is no potential for fish in the Project area. However, there may be fish in the surrounding areas.

4.6.3 AMPHIBIANS

Amphibians often require a source of standing or flowing water to complete their life cycle. However, some terrestrial amphibian species can survive in drier areas by remaining in moist environments found beneath leaf litter, animal burrows, and fallen logs, or by burrowing into the soil. These species are highly cryptic and often difficult to detect. Downed logs, bark, and other woody material in various stages of decay (often referred to as coarse woody debris), which is generally not present within the Project area, could provide shelter and feeding sites for a variety of wildlife, including amphibians and reptiles (Aubry et al. 1988; Maser and Trappe 1984).

Species known to occur in the area include the western toad (*Anaxyrus boreas*), California toad (*Anaxyrus boreas halophilus*), Baja California treefrog (*Pseudacris hypocondriaca*), and garden slender salamander (*Batrachoseps major major*).

4.6.4 REPTILES

The number and type of reptile species that may occur at a given site is related to several biotic and abiotic features. These include the diversity of plant communities, substrates, soil types, and presence of refugia such as rock piles, boulders, and native debris. Many reptile species, even if present, are difficult to detect because they are cryptic and their life history characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage) limit their ability to be observed during most surveys. Further, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most species take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation, where they are protected from unsuitable environmental conditions and predators (USACE and CDFG 2010). In some cases, they are only observed when flushed from their refugia. Weather conditions during the survey were favorable for reptile activity.

Common reptiles known to occur in the area include the red diamond rattlesnake (*Crotalus ruber*), San Diego gopher snake (*Pituophis catenifer annectens*), and California king snake (*Lampropeltis californiae*). Although the Project area does not contain suitable habitat for these species, there is potential for them to be present in areas adjacent to the Project. A small population of green sea turtles (*Chelonia mydas*) are known to be present near the mouth of San Gabriel River and in the lower reaches; however, this species requires shallow coastal waters and open ocean, which is not present within the Project area (National Oceanic and Atmospheric Administration [NOAA] 2024).

4.6.5 BIRDS

It is possible that many birds use the Project area at different periods, either as wintering habitat, seasonal breeding, or as occasional migrants. Suitable habitat conditions for several common birds known to occur in the region. Species that may be expected to occur include Cooper's hawk (*Accipiter cooperii*), whimbrel (*Numenius phaeopus*), Say's phoebe (*Sayornis saya*), common yellowthroat (*Geothlypis trichas*), belted kingfisher (*Megaceryle alcyon*), barn owl (*Tyto alba*), Canada goose (*Branta canadensis*), California gull (*Larus californicus*), western gull (*Larus occidentalis*), great blue heron (*Ardea herodias*), and black-crowned heron (*Nycticorax nycticorax*).

4.6.6 MAMMALS

Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support prey base, and the presence of suitable soils for fossorial mammals (e.g., sandy areas). Common mammals habituated to urban environments may move through the Project area, including striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), domestic species such as cats (*Felis catus*), and various rodent species.

Bats likely forage and roost in the region, particularly along riparian corridors. Many bats tend to concentrate foraging activities in riparian habitats similar to those occurring adjacent to the Project area where insect abundance is high.

5 Special-Status Biological Resources

The background information presented above was used to evaluate special-status natural communities and special-status plant and animal taxa that either occur or may have the potential to occur within the Project area and adjacent habitats. For the purposes of this BRTR, special-status taxa are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the CESA or FESA;
- Are candidate species being considered or proposed for listing under these same acts;
- Are recognized as SSC by the CDFW;
- Are ranked by CNPS as CRPR 1, 2, 3, or 4 plant species;
- Are fully protected by the FGC, Sections 3511, 4700, 5050, or 5515; and/or
- Are of expressed concern to resource/regulatory agencies, or local jurisdictions.

5.1 Special-Status Natural Communities

Sensitive natural communities are defined by CDFW (2018) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation is ranked with an "S" State rarity rank; however, only those that are of special concern (S1-S3 rank) are evaluated under CEQA.

The CNDDB records search indicated that there are four sensitive vegetation communities within a 10-mile radius of the Project area: Southern Coastal Salt Marsh, Southern Dune Scrub, Southern Foredunes, and Southern Cottonwood Willow Riparian Forest. The Southern Dune Scrub has a state rank of S1/Critically imperiled, at very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors. The Southern Coastal Salt Marsh and Southern Foredunes has a state rank of S2/Imperiled, at high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors. The Southern Cottonwood Riparian Forest has a state rank of S3/Vulnerable, at moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

The Project area does not contain any of these sensitive natural communities. The Project occurs within the Orange County Transportation Authority NCCP/HCP, but this is not relevant for this project.

5.2 Designated Critical Habitat

Designated critical habitat is defined by the USFWS (2020) as, ". . .a term defined and used in the Endangered Species Act. It includes specific geographic areas that contain features (known as Primary

Constituent Elements) essential to the conservation of an endangered or threatened species and that may require special management and protection. DCH may also include areas that are not currently occupied by the listed species but are thought to be needed for its recovery."

There is no DCH within the Project area. The nearest DCH is for the western snowy plover (*Charadrius nivosus nivosus*), located approximately 3.3 miles southeast; and coastal California gnatcatcher (*Polioptila californica californica*), located approximately 9.5 miles northeast of the Project area (USFWS 2024a, USFW 2024c).

5.3 Special-Status Plants

Special-status plant species include those listed as threatened or endangered under the FESA or CESA, taxa proposed for such listing, SSC, CRPR, and other taxa that have been identified by USFWS, CDFW, or local jurisdictions as unique or rare and that have the potential to occur within the Project area.

Tables 5 and 6 summarize the special-status plant taxa known to occur regionally and their potential for occurrence in the Project area. Appendix A, Figure 4 provides a depiction of previously reported species locations from the CNDDB records searches. Sources comprise the CNDDB, CNPS, USFWS, and OCTA NCCP/HCP. Each of the taxa identified in the database records searches were assessed for its potential to occur within the Project area based on the following criteria:

- **High (H)**: Both a documented recent record (within 10 years) exists of the taxa within the Project area or immediate vicinity (approximately 10 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the Project area.
- **Moderate (M)**: Both a documented recent record (within 10 years) exists of the taxa within the Project area, or the immediate vicinity (approximately 10 miles) and the environmental conditions associated with taxa presence are marginal and/or limited within the Project area; the Project area is located within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the Project area.
- **Low (L)**: A historical record (over 10 years) exists of the taxa within the Project area or general vicinity (approximately 10 miles) and the environmental conditions (including soil type) associated with taxa presence are marginal and/or limited within the Project area.
- **Not Likely to Occur (N):** The environmental conditions associated with taxa presence do not occur within the Project area.

Table 5. Special-Status Plant Species and Their Habitat Evaluated for Potential Occurrence

Common Name	Scientific Name	Status Federal/ State/CRPR/OCTA NCCP, HCP	General Habitat Description
red sand-verbena	*Abronia maritima*	-- / -- / 4.2 / --	Perennial herb that occurs in coastal dune habitats. Elevation range: below 328 feet. Typical blooming period is February – October.
chaparral sand-verbena	*Abronia villosa* var. *aurita*	-- / -- / 1B.1 / --	Annual herb that occurs in chaparral, coastal and desert dune habitats. Elevation range: 246 – 5,249 feet. Typical blooming period is January – September.
aphanisma	*Aphanisma blitoides*	-- / -- / 1B.2 / --	Annual herb adapted to saline soils, found in sand or scrub along the immediate coast. Elevation range: below 328 feet. Typical blooming period is in March – June.
Horn's milk-vetch	*Astragalus hornii* var. *hornii*	-- / -- / 1B.1 / --	Annual herb that occurs in lake margins, salty flats, meadows, seeps, and playas. Adapted to alkaline soils. Elevation range: 197 –. 984 feet. Typical blooming period is May – September.
Ventura marsh milk-vetch	*Astragalus pycnostachyus* var. *lanosissimus*	FE / SE / 1B.1 / --	Perennial herb that occurs in coastal dunes, coastal scrub, marshes, and swamps (edges, coastal salt, or brackish); within reach of high tide or protected by barrier beaches; rarely occurs near seeps on sandy bluffs. Elevation range: 3 – 115 feet. Typical blooming period is August - October.
Coulter's saltbush	*Atriplex coulteri*	-- / -- / 1B.2 / --	Perennial herb that occurs in coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland, ocean bluffs, ridgetops, as well as alkaline low places. Occurs in alkaline, dry, or clay soils. Elevation range: 7– 1,509 feet. Typical blooming period is March to October.
south coast saltscale	*Atriplex pacifica*	-- / -- / 1B.2 / --	Annual herb that occurs in coastal bluff scrub, coastal dune, coastal scrub, and playa habitats. Elevation range: below 984 feet. Typical blooming period is March to October.
Parish's brittlescale	*Atriplex parishii*	-- / -- / 1B.1 / --	Annual herb that occurs in dry lake beds, playas, ephemeral vernal pools, and chenopod scrub habitats. Present in saline and alkaline soils. Elevation range: 0 – 1,542 feet. Typical blooming period is June – October.
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	-- / -- / 1B.2 / --	Annual herb that occurs in coastal scrub, bluffs, chenopod scrub, playas, and vernal pools from southern California to Baja California. Occurs in alkaline soils. Elevation range: 0 – 656 feet. Typical blooming period is April – October.
Catalina mariposa lily	*Calochortus catalinae*	-- / -- / 4.2 / --	Perennial herb that occurs in coastal sage scrub, foothill woodland, chaparral, and valley grassland habitats. Elevation range: below 2,297 feet. Typical blooming period is March – June.

Common Name	Scientific Name	Status Federal/ State/CRPR/OCTA NCCP, HCP	General Habitat Description
Plummer's mariposa lily	*Calochortus plummerae*	-- / -- / 4.2 / --	Perennial herb that occurs in chaparral, cismontane woodland, coastal scrub, lower montane forest, and valley and foothill grasslands. Occurs in granitic and rocky substrates. Elevation range: 328– 5,577 feet. Typical blooming period is May – July.
intermediate mariposa lily	*Calochortus weedii* var. *intermedius*	-- / -- / 1B.2 / Listed	Perennial herb that occurs in chaparral, coastal scrub, and valley and foothill grasslands; typically in rocky, calcareous substrates. Elevation range: 345 – 2,805 feet. Typical blooming period is May – June.
lucky morning-glory	*Calystegia felix*	-- / -- / 1B.1 / --	Annual herb historically associated with wetland and marshy places, but possibly in drier situations as well. May occur in silty loam and alkaline soils in meadows and seeps, and riparian scrub habitats. Elevation range: 98 – 705 feet. Typical blooming period is March – September.
Lewis' evening-primrose	*Camissoniopsis lewisii*	-- / -- / 3 / --	Annual herb that occurs in coastal and dune habitats. Associated with coastal strand, coastal sage scrub, foothill woodland, and valley grassland communities. Elevation range: below 984 feet. Typical blooming period is March – June.
southern tarplant	*Centromadia parryi* ssp. *australis*	-- / -- / 1B.1 / Listed	Annual herb the occurs on the margins of marshes and swamps, vernally mesic portions of valley and foothill grasslands, depressions, waterway banks and beds, open poorly drained flats, and disturbed area. Occurs in alkaline substrates. Elevation range: 0 – 1,575 feet. Typical blooming period is May – November.
smooth tarplant	*Centromadia pungens* ssp. *laevis*	-- / -- / 1B.1 / --	Annual herb that occurs in chenopod scrub; meadows and seeps; playas; riparian woodlands; valley and foothill grasslands; depressions; waterway banks and beds; open, poorly drained flats; and disturbed areas. Occurs in alkaline soils. Elevation range: 295 – 1,640 feet. Typical blooming period is April – September.
salt marsh bird's-beak	*Chloropyron maritimum* ssp. *maritimum*	FE / -- / 1B.2 / --	Annual herb that occurs in coastal dune, marsh, and swamp habitats. Elevation range: 0-98 feet. Typical blooming period is May – October.
seaside cistanthe	*Cistanthe maritima*	-- / -- / 4.2 / --	Annual herb that occurs in coastal sage scrub and valley grassland communities. Elevation range: 0 – 984 feet. Typical blooming period is March – June.
small-flowered morning-glory	*Convolvulus simulans*	-- / -- / 4.2 / --	Annual herb that occurs in seeps. This species has a strong affinity for ultramafic substrates. Elevation range: 98 – 2,870 feet. Typical blooming period is March – July.
many-stemmed dudleya	*Dudleya multicaulis*	-- / -- / 1B.2 / Listed	Perennial herb that occurs in chaparral, coastal scrub, and valley and foothill grasslands. Often occurs in clay soils. Elevation range: 49 – 2,592 feet. Typical blooming period is April-July.

Common Name	Scientific Name	Status Federal/ State/CRPR/OCTA NCCP, HCP	General Habitat Description
small spikerush	*Eleocharis parvula*	-- / -- / 4.3 / --	Perennial grass-like herb that occurs in salt marsh and coastal habitats. Elevation range: below 164 feet. Typical blooming period is July – August.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	FE / SE / 1B.1 / --	Annual or perennial herb that occurs in vernal pools. Elevation range: below 2,313 feet. Typical blooming period is April – June.
Los Angeles sunflower	*Helianthus nuttallii* ssp. *parishii*	-- / -- / 1A / --	Perennial herb (rhizomatous) that historically occurred in Los Angeles, Orange, Riverside, and San Bernardino counties; however, it is presumed to be extinct. It occurred in salt or freshwater marshes and swamps. Elevation range: 33 – 5,003 feet. Typical blooming period is August – October.
vernal barley	*Hordeum intercedens*	-- / -- / 3.2 / --	Annual grass-like herb that occurs in coastal dune, coastal scrub, saline flats and depressions in valley and foothill grassland, and vernal pool habitats. Elevation range: 16 – 3,280 feet. Typical blooming period is March – June.
decumbent goldenbush	*Isocoma menziesii* var. *decumbens*	-- / -- / 1B.2 / --	Shrub that occurs in coastal scrub and chaparral habitats, and disturbed areas. Occurs in sandy soils. Elevation range: 3 – 3,002 feet. Typical blooming period is April – November.
Southern California black walnut	*Juglans californica*	-- / -- / 4.2 / --	Tree that occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Elevation range: 164 – 2,953 feet. Typical blooming period is March – August.
southwestern spiny rush	*Juncus acutus* ssp. *leopoldii*	-- / -- / 4.2 / --	Perennial grass-like herb (rhizomatous) that occurs in seeps, meadows, salt marshes, and dune coastal habitats. Elevation range: below 984 feet. Typical blooming period is May – June.
Coulter's goldenfields	*Lasthenia glabrata ssp. coulteri*	-- / -- / 1B.1 / --	Annual herb that occurs in coastal salt marshes and swamps, playas, coastal dunes, coastal sage scrub, valley and foothill grasslands, and vernal pools. Usually found in clay and alkaline soils. Elevation range: 3 – 4,511 feet. Typical blooming period is February – June.
California box-thorn	*Lycium californicum*	-- / -- / 4.2 / --	Shrub found in coastal sage scrub communities. Elevation range: below 492 feet. Typical blooming period is March – August.
mud nama	*Nama stenocarpa*	-- / -- / 2B.2 / --	Annual herb that occurs in marshes and swamps, lake shores, riverbanks, and other intermittently wet areas. Elevation range: 16 – 1. Typical blooming period is January – July.
Gambel's water cress	*Nasturtium gambelii*	FE / ST / 1B.1 / --	Perennial herb (rhizomatous) that occurs in freshwater or brackish marshes and swamps. Elevation range: 16 – 1,083 feet. Typical blooming period is April – October.

Common Name	Scientific Name	Status Federal/ State/CRPR/OCTA NCCP, HCP	General Habitat Description
prostrate vernal pool navarretia	*Navarretia prostrata*	-- / -- / 1B.2 / --	Annual herb that occurs in coastal scrub, valley and foothill grassland, vernal pool, and meadow and seep habitats. Occurs in alkaline soils. Elevation range: 10 – 4,052 feet. Typical blooming period is April – June.
coast woolly-heads	*Nemacaulis denudate* var. *denudate*	-- / -- / 1B.2 / --	Annual herb that occurs on coastal dunes and beaches. Elevation range: below 328 feet. Typical blooming period is March – August.
California Orcutt grass	*Orcuttia californica*	FE / SE / 1B.1 / --	Annual grass-like herb that occurs in large and deep vernal pools, typically with clay soils and an impervious subsurface layer. Elevation range: 49 – 2,165 feet. Typical blooming period is April -August.
Lyon's pentachaeta	*Pentachaeta lyonia*	-- / -- / 1B.1 / --	Annual herb that occurs in chaparral openings, and valley and valley and foothill grasslands. Elevation range: 98 – 2,264 feet. Typical blooming period is March – June.
south coast branching phacelia	*Phacelia ramosissima* var. *austrolitoralis*	-- / -- / 3.2 / --	Perennial herb that occurs in wetland below 12,467 feet in elevation. Typical blooming period is March – August.
Brand's star phacelia	*Phacelia stellaris*	-- / -- / 1B.1 / --	Annual herb that occurs on bluffs and slopes in coastal dunes, coastal scrub, and coastal bluff scrub habitats. Occurs in sandy or clay soils. Elevation range: 3 - 1,312 feet. Typical blooming period is March – June.
Engelmann oak	*Quercus engelmannii*	-- / -- / 4.2 / --	Tree that occurs in riparian habitats in foothill woodland, chaparral, and valley grassland communities. Elevation range: below 4,265 feet. Typical blooming period is March – June.
Sanford's arrowhead	*Sagittaria sanfordii*	-- / -- / 1B.2 / --	Perennial herb (rhizomatous) that occurs in freshwater marsh habitats. Elevation range: below 984 feet. Typical blooming period is May – October.
salt spring checkerbloom	*Sidalcea neomexicana*	-- / -- / 2B.2 / --	Perennial herb that occurs in playa, chaparral, coastal scrub, lower montane coniferous forest, and Mojavean desert scrub habitats. Also occurs in alkali springs and marshes. Elevation range: 49 – 5,020 feet. Typical blooming period is March – June.
estuary seablite	*Suaeda esteroa*	-- / -- / 1B.2 / --	Perennial herb that occurs in marshes and swamps, including coastal salt marshes. Occurs in clay, silt, and sand substrates. Elevation range: 0 – 262 feet. Typical blooming period is July – October.
woolly seablite	*Suaeda taxifolia*	-- / -- / 4.2 / --	Shrub that occurs in salt marsh habitats on the edges of coastal sage scrub and wetland riparian communities. Elevation range: below 49 feet. Typical blooming period is January – December.

Common Name	Scientific Name	Status Federal/ State/CRPR/OCTA NCCP, HCP	General Habitat Description
San Bernardino aster	*Symphyotrichum defoliatum*	-- / -- / 1B.2 / --	Perennial herb (rhizomatous) that occurs in meadow and seep, cismontane woodland, coastal scrub, lower montane coniferous forest, marsh and swamp, and valley foothill grassland habitats. Generally found in vernally mesic grassland habitats near ditches, streams, and springs. May also occur in disturbed areas. Elevation range: 10 – 6,709 feet. Typical blooming period is July – November.

General References:

USFWS IPaC 10-mile centered on Project area (accessed January 2024)
CNDDB RareFind 10-mile centered on Project area (accessed January 2024).
CNPS Inventory of Rare and Endangered Plants 8-quad search (accessed January 2024)
Orange County Transportation Authority NCCP/HCP (accessed 2024)

Status Codes:

No Status (--)

Federal
Federal Endangered (FE)
Federal Threatened (FT)
Federal Proposed Endangered (FPE)
Federal Proposed Threatened (FPT)
Federal Candidate (FC)

State
State Endangered (SE)
State Threatened (ST)
State Candidate (SC)
State Rare (SR)

California Rare Plant Rank (CRPR) from the California Native Plant Society (CNPS)

Rare, threatened, or endangered in California and elsewhere (Rank 1B);

Rare, threatened, or endangered in California, but more common elsewhere (Rank 2);

Plants that about which more information is needed (Rank 3);

A watch list plant of limited distribution (Rank 4)

Threat Code:

Seriously endangered in California (≥80% of occurrences threatened / high degree and immediacy of threat) (.1);

Fairly endangered in California (20-80% occurrences threatened) (.2);

Not very endangered I California (≤20% of occurrences threatened, or no current threats known) (.3).

Orange County Transportation Authority (OCTA) NCCP/HCP
Listed

Table 6. Special-Status Plant Species and Potential for Occurrence on Each Housing Opportunity Site and Main Street Program

Species	Housing Opportunity Site 1. 1780 Pacific Coast	Housing Opportunity Site 2. Leisure World	Housing Opportunity Site 3. Accurate Storage (1011 Seal Beach Blvd.)	Housing Opportunity Site 4. Shops at Rossmoor	Housing Opportunity Site 5. Old Ranch Town Center	Housing Opportunity Site 6. Seal Beach Plaza	Housing Opportunity Site 7. Seal Beach Center	Housing Opportunity Site 8. 99 Marina	Main Street Program
red-sand verbena	N	N	N	N	N	N	N	N	N
chaparral sand-verbena	N	N	N	N	N	N	N	N	N
aphanisma	N	N	N	N	N	N	N	N	N
Horn's milk-vetch	N	N	N	N	N	N	N	N	N
Ventura marsh milk-vetch	N	N	N	N	N	N	N	N	N
Coulter's saltbush	N	N	N	N	N	N	N	L	N
south coast saltscale	N	N	N	N	N	N	N	N	N
Parish's brittlescale	N	N	N	N	N	N	N	N	N
Davidson's saltscale	N	N	N	N	N	N	N	N	N
Catalina marisposa lily	N	N	N	N	N	N	N	N	N
Plummer's mariposa lily	N	N	N	N	N	N	N	N	N
intermediate mariposa lily	N	N	N	N	N	N	N	N	N
lucky morning-glory	N	N	N	N	N	N	N	N	N
Lewis' evening-primrose	N	N	N	N	N	N	N	N	N
southern tarplant	N	N	N	N	N	N	N	L	N
smooth tarplant	N	N	N	N	N	N	N	N	N
salt-march birds's beak	N	N	N	N	N	N	N	N	N
seaside cistanthe	N	N	N	N	N	N	N	N	N
small-flowered morning-glory	N	N	N	N	N	N	N	N	N
many-stemmed dudleya	N	N	N	N	N	N	N	N	N
small spikerush	N	N	N	N	N	N	N	N	N
San Diego button-celery	N	N	N	N	N	N	N	N	N
Los Angeles sunflower	N	N	N	N	N	N	N	N	N
vernal barley	N	N	N	N	N	N	N	N	N

Species	Housing Opportunity Site 1. 1780 Pacific Coast	Housing Opportunity Site 2. Leisure World	Housing Opportunity Site 3. Accurate Storage (1011 Seal Beach Blvd.)	Housing Opportunity Site 4. Shops at Rossmoor	Housing Opportunity Site 5. Old Ranch Town Center	Housing Opportunity Site 6. Seal Beach Plaza	Housing Opportunity Site 7. Seal Beach Center	Housing Opportunity Site 8. 99 Marina	Main Street Program
decumbent goldenbush	N	N	N	N	N	N	N	N	N
Southern California black walnut	N	N	N	N	N	N	N	N	N
southwestern spiny rush	N	N	N	N	N	N	N	N	N
Coulter's goldenfields	N	N	N	N	N	N	N	L	N
California box-thorn	N	N	N	N	N	N	N	N	N
mud nama	N	N	N	N	N	N	N	N	N
Gambel's water cress	N	N	N	N	N	N	N	N	N
prostrate vernal pool navarretia	N	N	N	N	N	N	N	N	N
coasty woolly-heads	N	N	N	N	N	N	N	N	N
California Orcutt grass	N	N	N	N	N	N	N	N	N
Lyon's pentachaeta	N	N	N	N	N	N	N	N	N
south coast branching phacelia	N	N	N	N	N	N	N	N	N
Brand's star phacelia	N	N	N	N	N	N	N	N	N
Engelmann oak	N	N	N	N	N	N	N	N	N
Sanford's arrowhead	N	N	N	N	N	N	N	N	N
salt spring checkerbloom	N	N	N	N	N	N	N	N	N
estuary seablite	N	N	N	N	N	N	N	N	N
woolly seablite	N	N	N	N	N	N	N	N	N
San Bernardino aster	N	N	N	N	N	N	N	N	N

5.4 Special-Status Wildlife

Special-status wildlife include those listed as threatened or endangered under the FESA or CESA, taxa proposed for such listing, SSC, and other taxa that have been identified by USFWS, CDFW, or local jurisdictions as unique or rare and that have the potential to occur within the Project area.

Tables 7 and 8 summarize the special-status wildlife taxa known to occur regionally and their potential for occurrence in the Project area. Appendix A, Figure 4 provides a depiction of previously reported species locations from the CNDDB records searches. Sources comprise the CNDDB, USFWS, and OCTA NCCP/HCP. Each of the taxa identified in the database records searches were assessed for its potential to occur within the Project area based on the following criteria:

- **High (H)**: Habitat (including soils) for the taxa occurs onsite, and a known occurrence occurs within the Project area or adjacent areas (within 5 miles of the Project area) within the past 20 years; however, these taxa were not detected during the most recent surveys.
- **Moderate (M)**: Habitat (including soils) for the taxa occurs onsite, and a known regional record occurs within the database search, but not within 5 miles of the Project area or within the past 20 years; or a known occurrence occurs within 5 miles of the Project area and within the past 20 years and marginal or limited amounts of habitat occurs onsite; or the taxa's range includes the geographic area and suitable habitat exists.
- **Low (L)**: Limited habitat for the taxa occurs within the Project area and no known occurrences were found within the database search and the taxa's range includes the geographic area.
- **Not Likely to Occur (N)**: The environmental conditions associated with taxa presence do not occur within the Project area.

Table 7. Special-Status Animal Species and Their Habitat Evaluated for Potential Occurrence

Common Name	Scientific Name	Status Federal / State / CDFW / OCTA NCCP, HCP	General Habitat Description
Invertebrates			
Crotch bumble bee	*Bombus crotchii*	-- / SC / S2 / --	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia,* and *Eriogonum*.
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE / S1 / -- / --	Restricted to vernal pools in coastal southern California and northwestern Baja California, Mexico.
monarch – California overwintering population	*Danaus plexippus plexippus* pop. 1	FC / S2 / -- / --	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation. Roosts located in wind-protected tree groves (eucalyptus, pine, cypress), with nectar and water sources nearby. Larvae require the host plant, (*Asclepias* ssp.) for development.
quino checkerspot butterfly	*Euphydryas Editha quino*	FE / S1S2 / -- / --	Native to southern California and northwestern Mexico. Occurs in localized colonies closely associated with the high densities of larval food plant, *Plantago erecta, P. insularis,* and *Orthocarpus purpurescens*. Adults use several chaparral annual flowers for food. Six known populations in southwestern Riverside and San Diego counties and at least one population near Tecate, Mexico. Associated with sunny openings within chaparral and coastal sage shrublands hills and mesas near the coast.
Palos Verdes blue butterfly	*Glaucopsyche lygdamus palosverdesensis*	FE / S1 / -- / --	Dependent on two known larval host plants, Santa Barbara milkvetch (Astragalus trichopodus var. lonchus)—also known as locoweed—and common deerweed (Acmispon glaber) within coastal scrub habitat. Known only from Palos Verdes peninsula.

Common Name	Scientific Name	Status Federal / State / CDFW / OCTA NCCP, HCP	General Habitat Description
Riverside fairy shrimp	*Streptocephalus woottoni*	FE / S2 / -- / --	Restricted to vernal pools and other non-vegetated ephemeral pools in inland areas of Riverside County, Orange County, and the vicinity of Ramona, San Diego County; and coastal areas of San Diego County and northwestern Baja California, Mexico.
Reptiles			
southern California legless lizard	*Anniella stebbinsi*	-- / S3 / SSC / --	Generally, south of the transverse range, extending to northwestern Baja California, Mexico. 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.
orange-throated whiptail	*Aspidoscelis hyperythra*	-- / S2S3 / WL / Listed	Found in sage scrub and chaparral habitats.
green turtle	*Chelonia mydas*	FT / S1 / -- / --	Usually occur in relatively shallow waters (except when migrating) inside reefs, bays, and inlets. Occur in lagoons and shoals with an abundance of marine grass and algae.
western pond turtle	*Emys marmorata*	FPT / SNR / SSC / Listed	A thoroughly aquatic turtle of small ponds and lakes, marshes, permanent and ephemeral shallow wetlands, stock ponds, reservoirs, treatment lagoons, irrigation ditches, and slow-moving permanent or intermittent rivers, streams, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying. Abundant cover necessary including logs, rocks, and submerged vegetation.
coast horned lizard	*Phrynosoma blainvillii*	-- / S4 / SSC / Listed	Primarily in sandy soil in open areas, especially sandy washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Main prey item is harvester ants. Occurs west of the deserts from northern Baja California, Mexico, north to Shasta County below 2,400 meters elevation.

Common Name	Scientific Name	Status Federal / State / CDFW / OCTA NCCP, HCP	General Habitat Description
Amphibians			
western spadefoot	*Spea hammondii*	FPT / S3S4 / SSC /--	Occurs in the Central Valley and adjacent foothills and the non-desert areas of southern California and Baja California, Mexico. Grassland habitats, valley-foothill hardwood woodlands, and coastal sage scrub. Vernal pools and other temporary rain pools, cattle tanks, and occasionally pools of intermittent streams are essential for breeding and egg-laying. Burrows in loose soils during dry season.
Fish			
Arroyo chub	*Gila orcuttii*	-- / S2 / SSC / Listed	Found in habitats characterized by slow-moving water, mud or sand substrate, and depths greater than 40 cm. Most abundant in low gradient pools that support at least some aquatic vegetation.
steelhead – southern California Distinct Population Segment (DPS)	*Oncorhynchus mykiss irideus* pop. 10	FT / S2 / SSC / --	Inhabits seasonally accessible rivers and streams with gravel for spawning. Requires sufficient flows in their natal streams to be able to return from oceans and lakes to spawn. Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerance to warmer water and more variable conditions.
short-tailed albatross	*Phoebastria albatrus*	FE / S1 / SSC / --	Located on remote islands of the western Pacific.
Mammals			
western mastiff bat	*Eumops perotis californicus*	-- / S3S4 / SSC / --	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, bridges, trees, and tunnels. In California, most records are from rocky areas at low elevations.
bobcat	*Lynx rufus*	-- / -- / -- / Listed	Common throughout the United States, southern Canada, and northern Mexico. Preferred habitats include dense chaparral, low and mid elevation conifer, oak, pinyon-juniper woodlands, riparian, and desert environments.
south coast marsh vole	*Microtus californicus*	-- / S2 / SSC / --	Occurs in areas of tidal marshes in Los Angeles, Orange, and southern Ventura counties.

Common Name	Scientific Name	Status Federal / State / CDFW / OCTA NCCP, HCP	General Habitat Description
big free-tailed bat	*Nyctinomops macrotis*	-- / S3 / SSC / --	Occurs in low-lying arid areas in southern California. Prefers rugged, rocky terrain. Often forages over water sources. Roosts in buildings, caves, and occasionally in holes in trees. Also roosts in crevices in high cliffs or rock outcrops.
western yellow bat	*Lasiurus xanthinus*	-- / S3 / SSC / --	Primarily roost in trees hanging from the underside of leaves. Commonly found in riparian woodland habitat with dead fronds of non-native palms (for roosting).
Pacific pocket mouse	*Perognathus longimembris pacificus*	FE / S2 / SSC / --	An obligate resident of fine-grained sandy soils of coastal strand, coastal dunes, river and marine alluvium, and coastal sage scrub near the ocean and has never been collected more than 2 miles from the coast. Occurrences are closely associated with loose or friable soils that permit burrowing.
southern California saltmarsh shrew	*Sorex ornatus salicornicus*	-- / S1 / SSC /--	Coastal marshes in Los Angeles, Orange, and Ventura counties. Requires dense vegetation and woody debris for cover.
Birds			
tricolored blackbird	*Agelaius tricolor*	-- / ST / SSC / --	Highly colonial species, most numerous in the Central Valley and vicinity, and largely endemic to California. Breeds near freshwater, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. Forages in grassland and cropland habitats with insect prey within a few kilometers of the colony. They are itinerant breeders, nesting more than once at different locations during the breeding season.
burrowing owl	*Athene cunicularia*	-- / S2 / SSC / --	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.
ferruginous hawk	*Buteo regalis*	-- / S3S4 / WL / --	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.

Common Name	Scientific Name	Status Federal / State / CDFW / OCTA NCCP, HCP	General Habitat Description
Swainson's hawk	*Buteo swaisoni*	-- / ST / S4 / --	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.
coastal cactus wren	*Campylorhynchus brunneicapillus sandiegensis*	-- / S2 / SSC / Listed	Southern California coastal sage scrub. Wrens require tall cactus for nesting and roosting.
western snowy plover	*Charadrius nivosus nivosus*	FT / S3 / SSC / --	Sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT / SE / S1 / --	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian forests of willow, often mixed with cottonwoods, with well-developed understories of blackberry, nettles, or wild grape.
southwestern willow flycatcher	*Empidonax traillii extimus*	FE / SE / S3 / Listed	Breeds in dense riparian areas associated with nearby rivers, swamps, and wetlands.
California black rail	*Laterallus jamaicensis* ssp. *coturniculus*	-- / ST / S2 / FP /--	Nests in wet meadows, shallow freshwater marshes, and the shallower or drier portions of salt marshes. Winters in shallow coastal and interior marshes the do not freeze. Occasionally found in rice fields. Does not migrate.
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	-- / SE / S3 / --	Locally common non-migratory resident of coastal saltmarsh. An obligate breeder in middle elevation saltmarsh, nearly always characterized by pickleweed (Salicornia spp.), either in tidal situations or non-tidal alkaline flats nearby. Foraging primarily stems from saltmarsh and mudflat, individuals, particularly post-breeding birds, can be found foraging in a wide variety of habitats including upper marsh, adjacent ruderal and ornamental vegetation, open beach and mudflat, and even dirt and gravel parking lots.

Common Name	Scientific Name	Status Federal / State / CDFW / OCTA NCCP, HCP	General Habitat Description
coastal California gnatcatcher	*Polioptila californica californica*	FT / S2 / SSC / Listed	Obligate, permanent resident of coastal sage scrub below 2500 feet in southern California. Low, coastal sage scrub in arid washes and on mesas and slopes with California sagebrush (Artemisia californica) as a dominant or co-dominant species. Not all areas classified as coastal sage scrub are occupied.
Hawaiian Petrel	*Pterodroma sandwichensis*	FE / -- / -- / --	Endemic to Hawaii.
light-footed Ridgway's rail	*Rallus obsoletus levipes*	FE / SE / S1 / FP / --	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.
bank swallow	*Riparia riparia*	-- / ST / S3 / --	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole. Forage in open areas and avoid places with tree cover.
black skimmer	*Rynchops niger*	-- / S2 / SSC /--	Open sandy beaches, on gravel or shell bars with sparse vegetation, or on mats of sea wrack (tide-stranded debris) in saltmarsh. Occasionally seen at inland lakes such as the Salton Sea of California. Much of this species' original beach habitat has been developed as houses and attractions for beachgoers. Particularly in the southeastern U.S., artificial islands made from dredge spoils are an important nesting habitat for this and other species.
yellow warbler	*Setophaga petechia*	-- / S3 / SSC /--	Thickets and other disturbed or regrowing habitats, particularly along streams and wetlands. Often found in willow thickets, dwarf birch stands, aspen trees, and along the edges of fields. May occur up to 9,000 feet in elevation. Overwinter in dry scrub, marshes, and forests of lowlands.

Common Name	Scientific Name	Status Federal / State / CDFW / OCTA NCCP, HCP	General Habitat Description
California least tern	*Sternula antillarum browni*	FE / SE / S2 / FP /--	Nests on sandy upper ocean beaches, open barren sites, and occasionally uses mudflats. Forages on adjacent surf line, estuaries, or the open ocean where fish is abundant. Colonies are located near the ocean shoreline (within 0.5 mile [about 800 meters]), typically on nearly flat, loose sandy substrates with lightly scattered short vegetation and debris, although some colonies have been located on hard-packed surfaces, even unused asphalt. Colony sites must provide access to the shoreline for juveniles and must be relatively free of predators or the colony may abandon breeding efforts before completion.
least Bell's vireo	*Vireo bellii pusillus*	FE / SE / S3 / Listed	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet. Often inhabits structurally diverse woodlands along watercourses including cottonwood-willow and oak woodlands and mulefat scrub. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, mulefat, or mesquite.

General References:

USFWS IPaC 10-mile centered on Project area (accessed January 2024)

CNDDB RareFind 10-mile search centered on Project area (accessed January 2024).

Orange County Transportation Authority NCCP/HCP (Accessed 2024)

Status Codes:

No status (--)

Federal
Federal Endangered (FE)
Federal Threatened (FT)
Federal Proposed Endangered (FPE)
Federal Proposed Threatened (FPT)
Federal Candidate (FC)

State
State Endangered (SE)
State Threatened (ST)
State Candidate (SC)
State Fully Protected Species (FP)
CDFW California Special Concern Species (SSC)
Included in CDFW "Watch List" (WL)
Critically Imperiled (S1)
Imperiled (S2)
Vulnerable (S3)
Apparently Secure (S4)
Unranked (SNR)

Orange County Transportation Authority (OCTA) NCCP/HCP
Listed

Table 8. Special-Status Animal Species and Potential for Occurrence on Each Housing Opportunity Site and Main Street Program

Species	Housing Opportunity Site 1. 1780 Pacific Coast	Housing Opportunity Site 2. Leisure World	Housing Opportunity Site 3. Accurate Storage (1011 Seal Beach Blvd.)	Housing Opportunity Site 4. Shops at Rossmoor	Housing Opportunity Site 5. Old Ranch Town Center	Housing Opportunity Site 7. Seal Beach Center	Housing Opportunity Site 6. Seal Beach Plaza	Housing Opportunity Site 8. 99 Marina Drive	Main Street Program
tricolored blackbird	N	N	N	N	N	N	N	N	N
southern California legless lizard	N	N	N	N	N	N	N	H	N
orange-throated whiptail	N	N	N	N	N	N	N	N	N
burrowing owl	N	N	N	N	N	N	N	N	N
Crotch bumble bee	N	N	N	N	N	N	N	H (foraging) H (nesting)	N
San Diego fairy shrimp	N	N	N	N	N	N	N	N	N
ferruginous hawk	N	N	N	N	N	N	N	M (foraging) M (nesting)	N
Swainson's hawk	N	N	N	N	N	N	N	M (foraging) M (nesting)	N

Species	Housing Opportunity Site 1. 1780 Pacific Coast	Housing Opportunity Site 2. Leisure World	Housing Opportunity Site 3. Accurate Storage (1011 Seal Beach Blvd.)	Housing Opportunity Site 4. Shops at Rossmoor	Housing Opportunity Site 5. Old Ranch Town Center	Housing Opportunity Site 7. Seal Beach Center	Housing Opportunity Site 6. Seal Beach Plaza	Housing Opportunity Site 8. 99 Marina Drive	Main Street Program
coastal cactus wren	N	N	N	N	N	N	N	N	N
western snowy plover	N	N	N	N	N	N	N	N	N
green turtle	N	N	N	N	N	N	N	N	N
western yellow-billed cuckoo	N	N	N	N	N	N	N	N	N
monarch – California overwintering population	N	N	N	N	N	N	N	M (adults) L (larva)	N
southwestern willow flycatcher	N	N	N	N	N	N	N	N	N
western pond turtle	N	N	N	N	N	N	N	N	N
western mastiff bat	N	N	N	N	N	N	N	N	N
quino checkerspot butterfly	N	N	N	N	N	N	N	N	N
Arroyo chub	N	N	N	N	N	N	N	N	N
Palos Verdes blue butterfly	N	N	N	N	N	N	N	N	N
western yellow bat	N	N	N	N	N	N	N	N	N
California black rail	N	N	N	N	N	N	N	N	N
bobcat	N	N	N	N	N	N	N	N	N

Species	Housing Opportunity Site 1. 1780 Pacific Coast	Housing Opportunity Site 2. Leisure World	Housing Opportunity Site 3. Accurate Storage (1011 Seal Beach Blvd.)	Housing Opportunity Site 4. Shops at Rossmoor	Housing Opportunity Site 5. Old Ranch Town Center	Housing Opportunity Site 7. Seal Beach Center	Housing Opportunity Site 6. Seal Beach Plaza	Housing Opportunity Site 8. 99 Marina Drive	Main Street Program
south coast marsh vole	N	N	N	N	N	N	N	N	N
big free-tailed bat	N	N	N	N	N	N	N	N	N
steelhead – southern California DPS	N	N	N	N	N	N	N	N	N
Belding's savannah sparrow	N	N	N	N	N	N	N	H (foraging) H (nesting)	N
Pacific pocket mouse	N	N	N	N	N	N	N	N	N
short-tailed albatross	N	N	N	N	N	N	N	N	N
coast horned lizard	N	N	N	N	N	N	N	N	N
coastal California gnatcatcher	N	N	N	N	N	N	N	N	N
Hawaiian petrel	N	N	N	N	N	N	N	N	N
light-footed Ridgeway's rail	N	N	N	N	N	N	N	N	N
bank swallow	N	N	N	N	N	N	N	N	N
black skimmer	N	N	N	N	N	N	N	N	N
yellow warbler	N	N	N	N	N	N	N	N	N

Species	Housing Opportunity Site 1. 1780 Pacific Coast	Housing Opportunity Site 2. Leisure World	Housing Opportunity Site 3. Accurate Storage (1011 Seal Beach Blvd.)	Housing Opportunity Site 4. Shops at Rossmoor	Housing Opportunity Site 5. Old Ranch Town Center	Housing Opportunity Site 7. Seal Beach Center	Housing Opportunity Site 6. Seal Beach Plaza	Housing Opportunity Site 8. 99 Marina Drive	Main Street Program
southern California saltmarsh shrew	N	N	N	N	N	N	N	N	N
western spadefoot	N	N	N	N	N	N	N	N	N
California least tern	N	N	N	N	N	N	N	N	N
Riverside fairy shrimp	N	N	N	N	N	N	N	N	N
least Bell's vireo	N	N	N	N	N	N	N	N	N

5.5 Wildlife Corridors and Special Linkages

Linkages and corridors facilitate regional animal movement and are generally centered in or around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, recent radio-tracking and tagging studies of Coast Range newts, California red-legged frogs, southwestern pond turtles, and two-striped garter snakes found that long-distance dispersal involved radial or perpendicular movements away from a water source with little regard to the orientation of the assumed riparian "movement corridor" (Bulger et al. 2002; Hunt 1993; Ramirez 2002, 2003a, 2003b; Rathbun et al. 1992; Trenham 2002). Likewise, carnivores do not necessarily use riparian corridors as movement corridors, frequently moving overland in a straight line between two points when traversing large distances (Beier 1993, 1995; Newmark 1995; Noss et al. 1996, n.d.). In general, the following corridor functions can be utilized when evaluating impacts to wildlife movement corridors:

- Movement corridors are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.

- Dispersal corridors are relatively narrow, linear landscape features embedded in a dissimilar matrix that link two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.

- Habitat linkages are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.

- Travel routes are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors, within larger natural habitat areas that are frequently used by animals to facilitate movement and provide access to water, food, cover, den sites, and other necessary resources. A travel route is generally preferred by a species because it provides the least amount of

topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll 1997).

- Wildlife crossings are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are human-made and include culverts, underpasses, drainage pipes, bridges, tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent “choke points” along a movement corridor because unseable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffee and Carroll 1997).

5.5.1 WILDLIFE MOVEMENT IN THE PROJECT AREA

The Project area includes disturbed/developed and ruderal herbaceous landcover types. These are comprised of shopping centers and paved parking lots, fenced parks, disturbed open space, and a golf course. The surrounding area is characterized by development, roadways, undeveloped/disturbed open space, agriculture, and the Seal Beach National Wildlife Refuge to the southeast of the Project area. Most of the landcover types pose significant barriers to terrestrial wildlife movement including buildings, fences, and multi-lane roadways. These areas may harbor common species habituated to life in urban environments such as Virginia opossum, raccoon, desert cottontail, California ground squirrel, coyote, various birds, and small rodents. In addition, the Project area is within the Pacific Flyway, a major north-south flyway for migratory birds in America, extending from Alaska to Patagonia. Each year, at least one billion birds migrate along the Pacific Flyway (Audubon 2024).

Within the Project area, the level of urban development and the presence of physical barriers surrounding the Project area would significantly constrain the passage of most large terrestrial wildlife known to occur in the region. Based on the location of the Housing Opportunity Sites and Main Street Program, the area do not function as a wildlife movement corridor. The Project area does not occur within any known wildlife movement corridor or habitat linkage as identified by the Wildlands Network (2024).

6 Conclusions

Without mitigation, implementation of the proposed Project may result in temporary and permanent impacts to sensitive plant or wildlife species, and wetland habitats. The Applicant proposed the following avoidance and minimization measures (AMMs) to avoid or minimize Project impacts to biological resources during and after construction. These measures represent conservative guidelines in terms of minimizing impacts to vegetation, jurisdictional waters, and wildlife due to construction activities.

6.1 Potential Onsite Impacts

Potential impacts for each of the eight Housing Opportunity Sites and Main Street Program defer based on the habitat present within and adjacent to each location. Below is summary of potential impacts associated with each eight Housing Opportunity Sites and Main Street Program.

Housing Opportunity Site 1 – 1780 Pacific Coast Site. The entirely of this site is developed with commercials stores and paved parking with interspersed trees and does not provide suitable habitat for any special-status plant or animal species, nor does it contain and wetlands or other waters. However, there is potential for bird species protected under the MBTA to be nesting in the trees that a dispersed on this site.

Housing Opportunity Site 2 – Leisure World. The entirely of this site is developed with commercials stores and paved parking with interspersed trees and does not provide suitable habitat for any special-status plant or animal species, nor does it contain any wetlands or other waters within its boundary. However, there is potential for bird species protected under the MBTA to be nesting in the trees that a dispersed on this site.

Housing Opportunity Site 3 – Accurate Storage (1011 Seal Beach Blvd.). The entirely of this site is developed with commercials stores and paved parking with interspersed trees and does not provide suitable habitat for any special-status plant or animal species, nor does it contain any wetland or other waters. However, there is potential for bird species protected under the MBTA to be nesting in the trees that a dispersed on this site.

Housing Opportunity Site 4 – Shops at Rossmoor. The entirely of this site is developed with commercials stores and paved parking with interspersed trees and does not provide suitable habitat for any special-status plant or animal species, nor does it contain any wetland or other water features. However, there is potential for bird species protected under the MBTA to be nesting in the trees that a dispersed on this site.

Housing Opportunity Site 5 – Old Ranch Town Center. The entirely of this site is developed with commercials stores and paved parking with interspersed trees and does not provide suitable habitat for any special-status plant or animal species, nor does it contain any wetland or other water features within its boundary. However, there is potential for bird species protected under the MBTA to be nesting in the trees that a dispersed on this site.

Housing Opportunity Site 6 – Seal Beach Plaza. The entirely of this site is developed with commercials stores and paved parking with interspersed trees and does not provide suitable habitat for any special-status plant or animal species, nor does it contain any wetland or other waters within its boundary. However, there is potential for bird species protected under the MBTA to be nesting in the trees that a dispersed on this site.

Housing Opportunity Site 7 – Seal Beach Center. The entirely of this site is developed with commercials stores and paved parking with interspersed trees and does not provide suitable habitat for any special-status plant or animal species, nor does it contain and wetlands or other waters. However, there is potential for bird species protected under the MBTA to be nesting in the trees that a dispersed on this site.

Housing Opportunity Site 8 – 99 Marina. The primary land cover at the 99 Marina site is ruderal herbaceous with interspersed trees and disturbed/developed including a paved parking area and handball court. This site does not contain and wetlands or other waters. This site has a low likelihood for the following species to be present: Coulter's goldenfields; Coulter's saltbush; southern tarplant; and monarch butterfly larva; depending on presence of host plant (milkweed). There is a moderate likelihood for the following species to be present: ferruginous hawk (foraging and nesting), Swainson's hawk (foraging and nesting), and monarch butterfly (foraging adults). Finally, there is a high likelihood for the southern California legless lizard and Belding's savannah sparrow to be present on Housing Opportunity Site 8. Project implementation has the potential to impact the above listed species should they be present.

Main Street Program. The entirely of this site is developed with commercials stores and paved parking with interspersed trees and does not provide suitable habitat for any special-status plant or animal species, or does it contain and wetlands or other waters within its boundary. However, there is potential for bird species protected under the MBTA to be nesting in the trees that a dispersed on this site.

Based on the habitat types within and surrounding this Project area, there is a low likelihood for the following species to be present: Coulter's goldenfields; Coulter's saltbush; southern tarplant; and monarch butterfly larva, depending on presence of host plant (milkweed). There is a moderate likelihood for the following species to be present: ferruginous hawk (foraging and nesting), Swainson's hawk (foraging and nesting), and monarch butterfly (foraging adults). Finally, there is a high likelihood for the southern California legless lizards, and Belding's savannah sparrow to be present at this site.

6.2 Potential Impacts to Adjacent Areas

As described in Section 4.1, areas adjacent to the Project area provide suitable habitat for sensitive species. Housing Opportunity Sites 2 and 4, are adjacent to undeveloped, agricultural, or other open space that may also provide habitat for special-status species.

7 References

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APPENDICES

Appendix A Figures

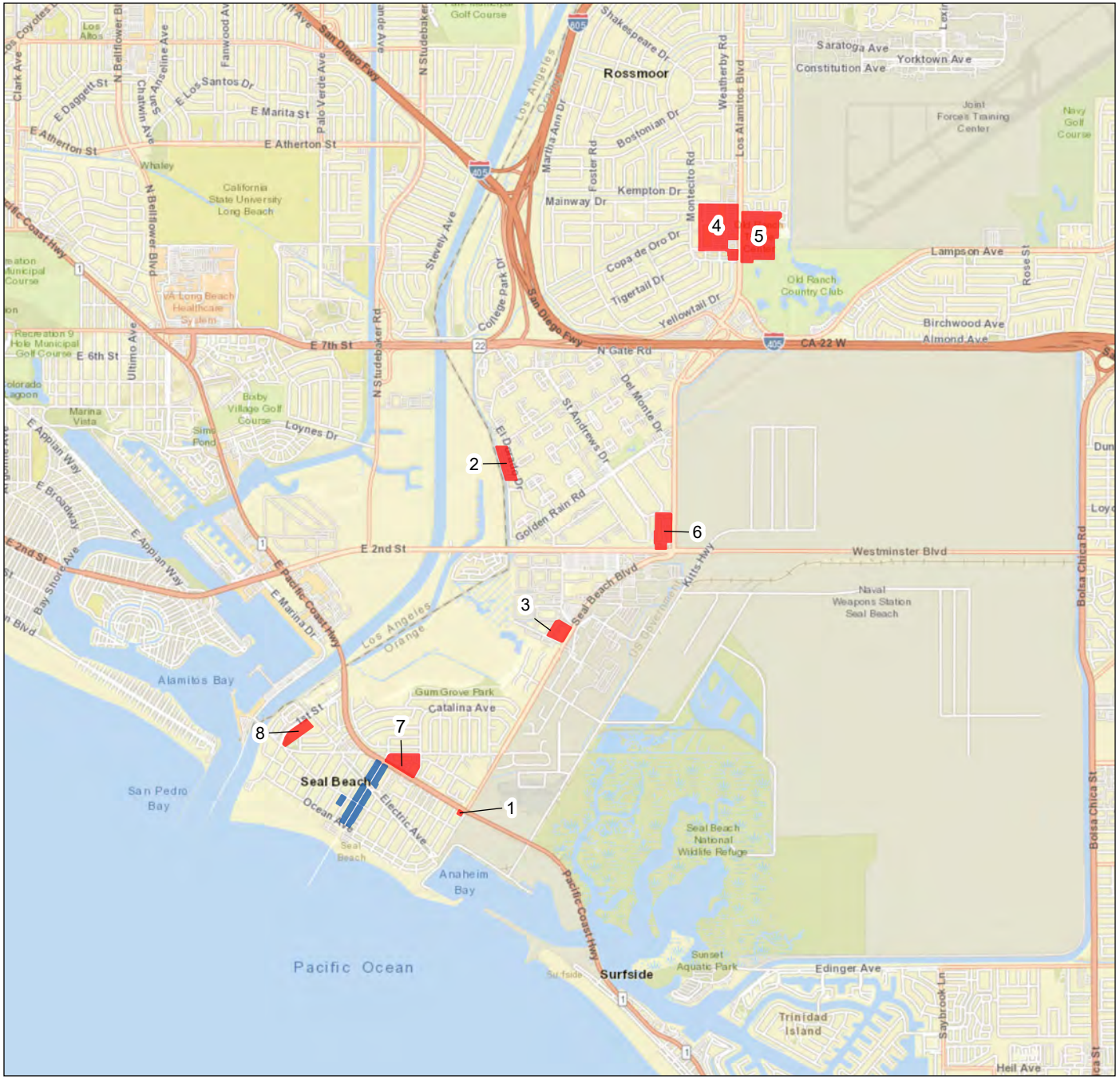
Figure 1-1. Project Location Overview

Figure 2-1. Soils

Figure 3-1. National Wetland Inventory

Figure 4-1 – 4-6. 10 Mile CNDDB Results

Figure 5-1. Regulated and Protected Areas



Stantec

Sites

Main Street Program

N

0 1,000 2,000 Feet

(At original document size of 8.5x11)

1:38,006,721

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

2. Data Sources: City of Seal Beach 2024.

3. Background: World Street Map: City of Long Beach, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, NGA, USGS

Project Location

City of Seal Beach, California

Prepared by KDLP on 2024-10-21
TR by SET on 2024-10-21
IR by JV on 2024-10-21

Client/Project

204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.

1 - 1

Title

Project Location

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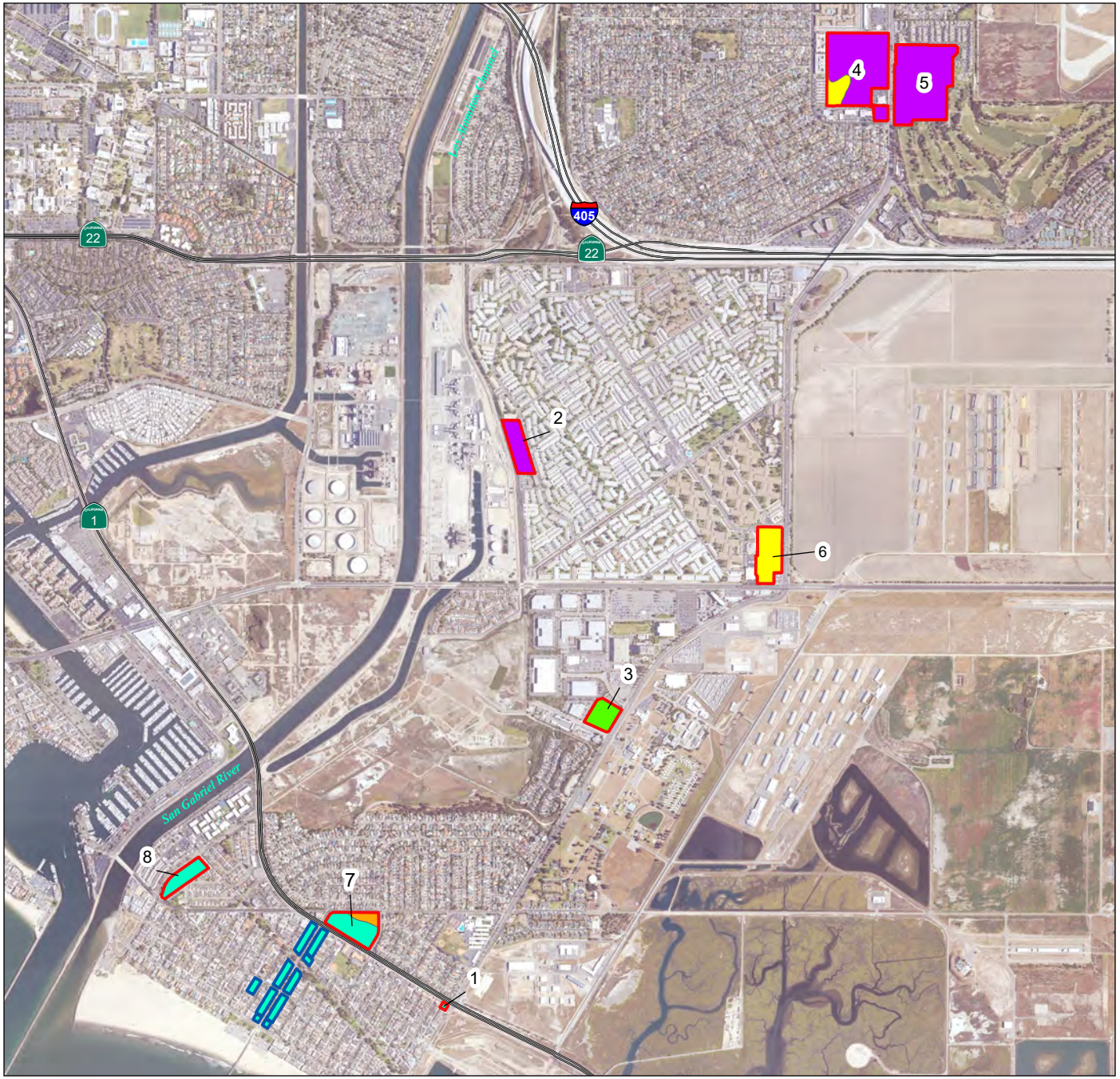

Stantec

- Sites
- Main Street Program

Soil Map Unit Symbol

- 100; Alo clay, 9 to 15 percent slopes
- 123; Bolsa silt loam, drained
- 125; Bolsa silty clay loam, drained
- 162; Marina loamy sand, 2 to 9 percent slopes
- 173; Myford sandy loam, 2 to 9 percent slopes

N

0 1,000 2,000 Feet
(At original document size of 8.5x11)
1:38,006,721

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: City of Seal Beach 2024. Soils from NRCS 2024.
3. Background: NAIP 2022 60cm California: California 60cm NAIP Imagery 2022.

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-21
TR by SET on 2024-10-21
IR by JV on 2024-10-21

Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
2 - 1

Title
Soils

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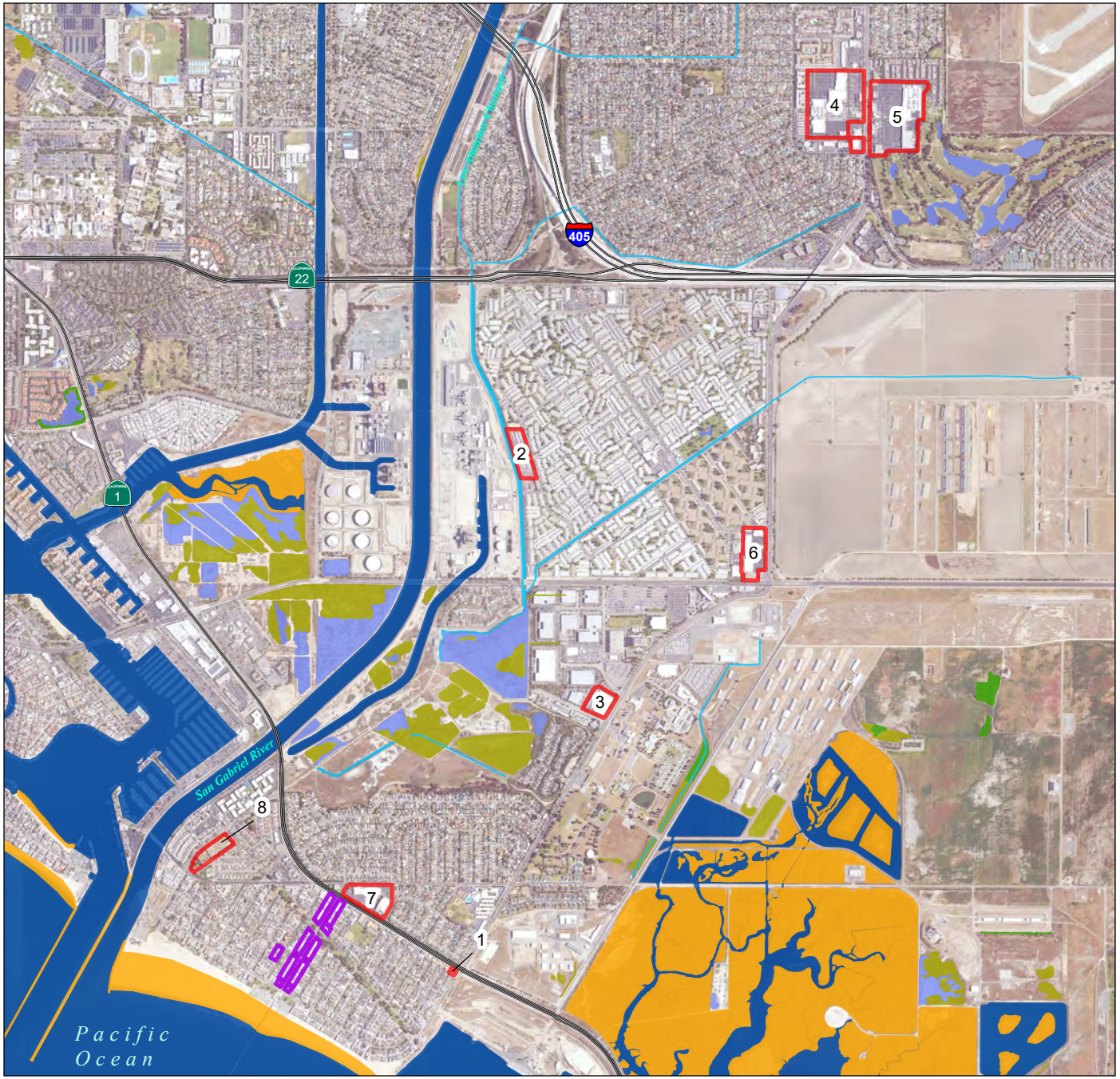

Stantec

Sites
Main Street Program

National Wetlands Inventory

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

N

0 1,000 2,000 Feet
(At original document size of 8.5x11)
1:38,006,721

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: City of Seal Beach 2024. NWI from USFWS 2023.
3. Background: NAIP 2022 60cm California: California 60cm NAIP Imagery 2022.

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-21
TR by SET on 2024-10-21
IR by JV on 2024-10-21

Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
3 - 1

Title
National Wetlands Inventory

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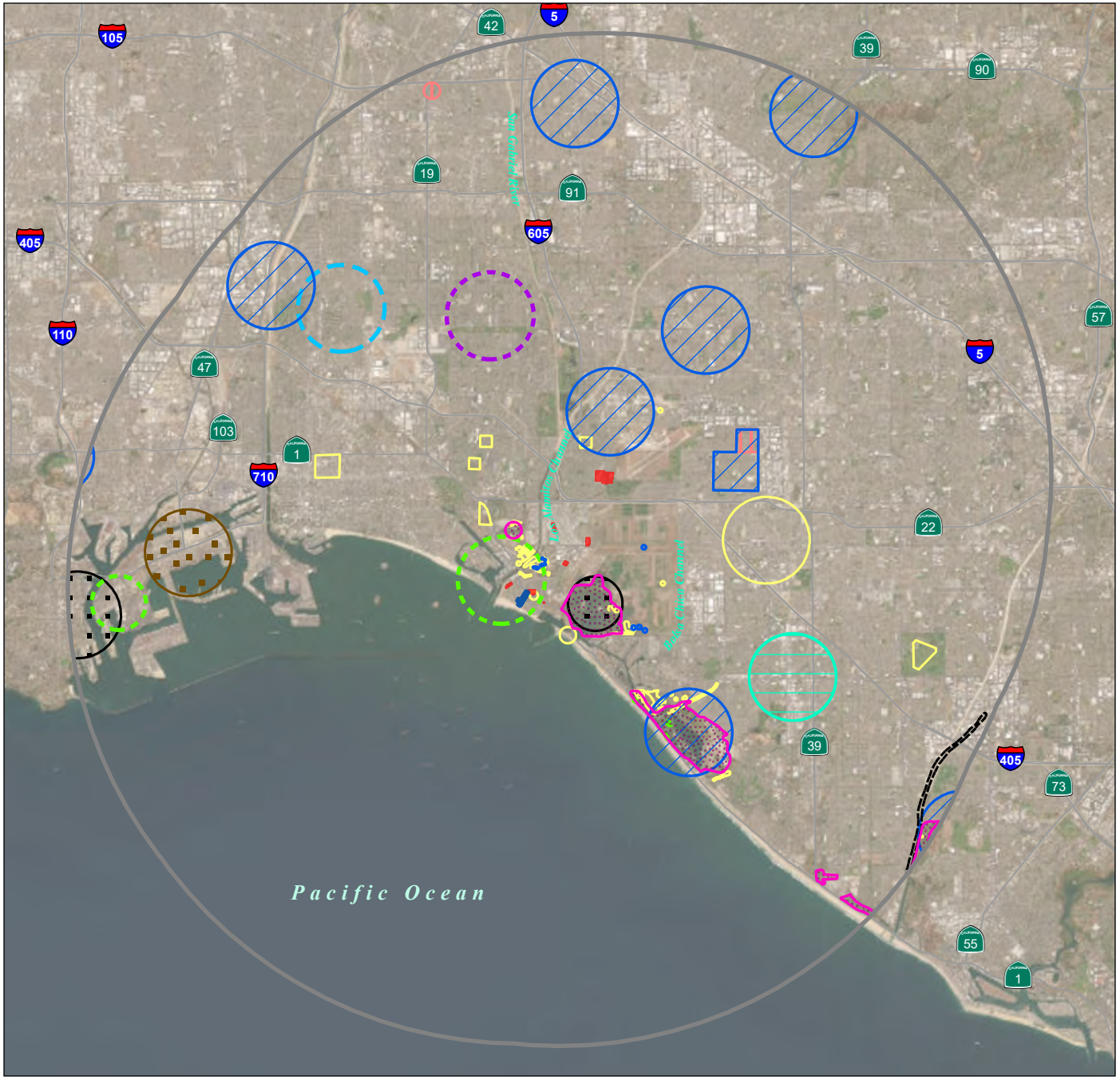

Stantec

- Sites
- Main Street Program
- 10 Mile Search Radius

10 Mile CNDDB Results

Plants

- Davidson's saltscale
- Brand's star phacelia
- California Orcutt grass
- southern tarplant
- Coulter's saltbush
- Los Angeles sunflower
- coast woolly-heads
- Coulter's goldfields
- decumbent goldenbush

Terrestrial Communities

- Southern Cottonwood Willow Riparian Forest
- Southern Coastal Salt Marsh

N

0 1.75 3.5 Miles

(At original document size of 8.5x11)
1:38,006,721

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

2. Data Sources: City of Seal Beach 2024. CNDDB from CDFW 2024.

3. Background: World Imagery: Earthstar Geographics California 60cm NAIP Imagery 2022.

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-21
TR by SET on 2024-10-21
IR by JV on 2024-10-21

Client/Project
204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
4 - 1

Title
10 Mile CNDDB Results - Plants & Terrestrial Communities

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Stantec

- Sites
- Main Street Program
- 10 Mile Search Radius

10 Mile CNDDB Results

Plants

- chaparral sand-verbena
- smooth tarplant
- mud nama
- Lyon's pentachaeta
- lucky morning-glory
- salt marsh bird's-beak
- Gambel's water cress
- Parish's brittlescale
- San Bernardino aster
- prostrate vernal pool navarretia
- salt spring checkerbloom
- estuary seablite
- Ventura Marsh milk-vetch
- Sanford's arrowhead
- Horn's milk-vetch

Terrestrial Communities

- Southern Foredunes
- Southern Dune Scrub

N

0 1.75 3.5 Miles

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Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: City of Seal Beach 2024. CNDDB from CDFW 2024.
3. Background: World Imagery: Earthstar Geographics

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-21
TR by SET on 2024-10-21
IR by JV on 2024-10-21

Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
4 - 2

Title
10 Mile CNDDB Results - Plants & Terrestrial Communities

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-21 By: kdelapena

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Stantec

- Sites
- Main Street Program
- 10 Mile Search Radius

10 Mile CNDDB Results

Wildlife

- American bumble bee
- Belding's savannah sparrow
- California black rail
- California brown pelican
- California least tern
- Crotch bumble bee
- Dorothy's El Segundo Dune weevil
- Pacific pocket mouse
- Palos Verdes blue butterfly
- San Gabriel chestnut
- Southern California legless lizard
- Swainson's hawk

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Notes

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Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
4 - 3

Title
10 Mile CNDDB Results - Wildlife

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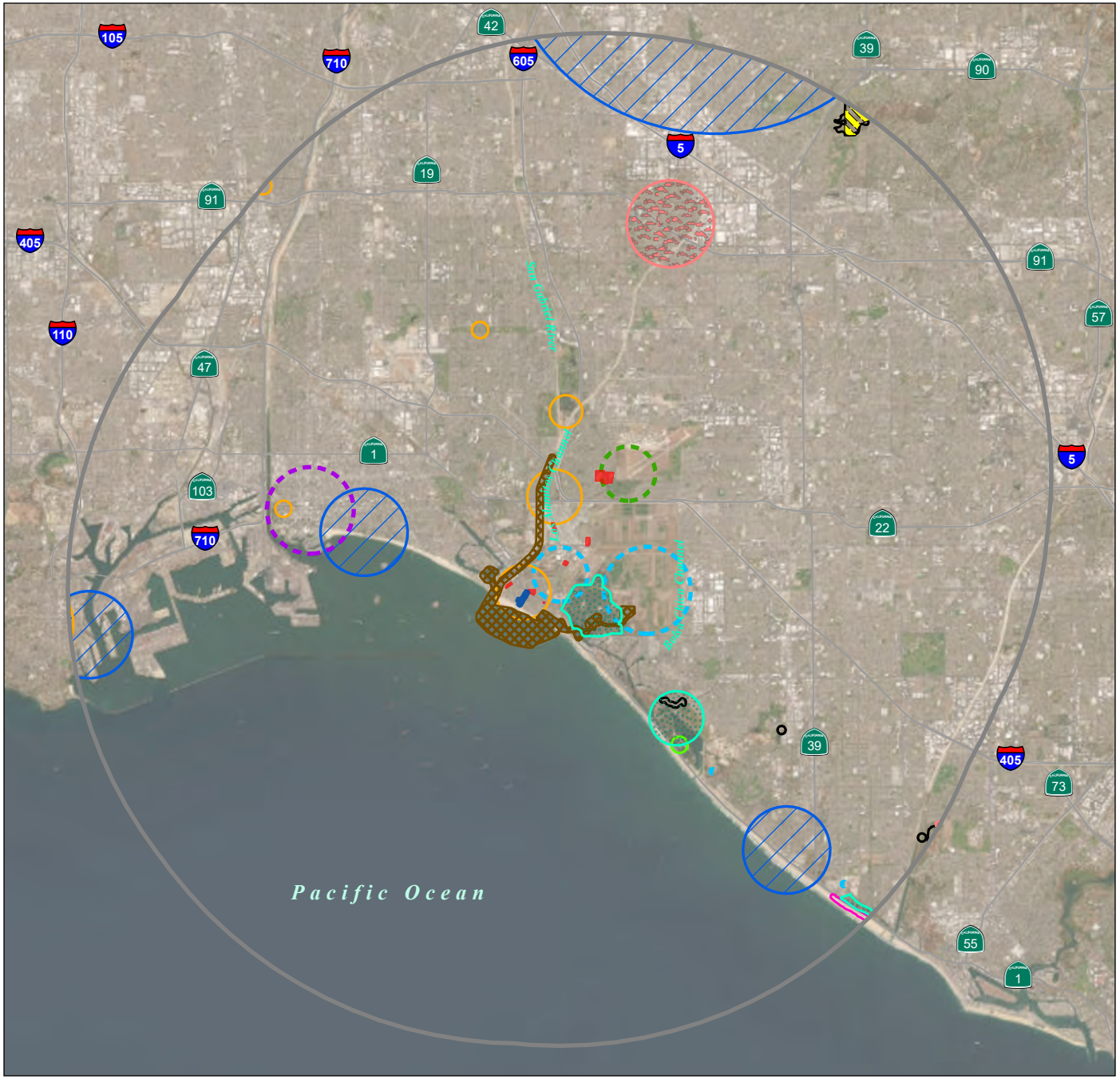

Stantec

- Sites
- Main Street Program
- 10 Mile Search Radius

10 Mile CNDDB Results

Wildlife

- bank swallow
- big free-tailed bat
- black skimmer
- burrowing owl
- coast horned lizard
- coastal California gnatcatcher
- coastal cactus wren
- ferruginous hawk
- globose dune beetle
- green turtle
- least Bell's vireo
- light-footed Ridgway's rail

N

0 1.75 3.5 Miles

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Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
4 - 4

Title
10 Mile CNDDB Results - Wildlife

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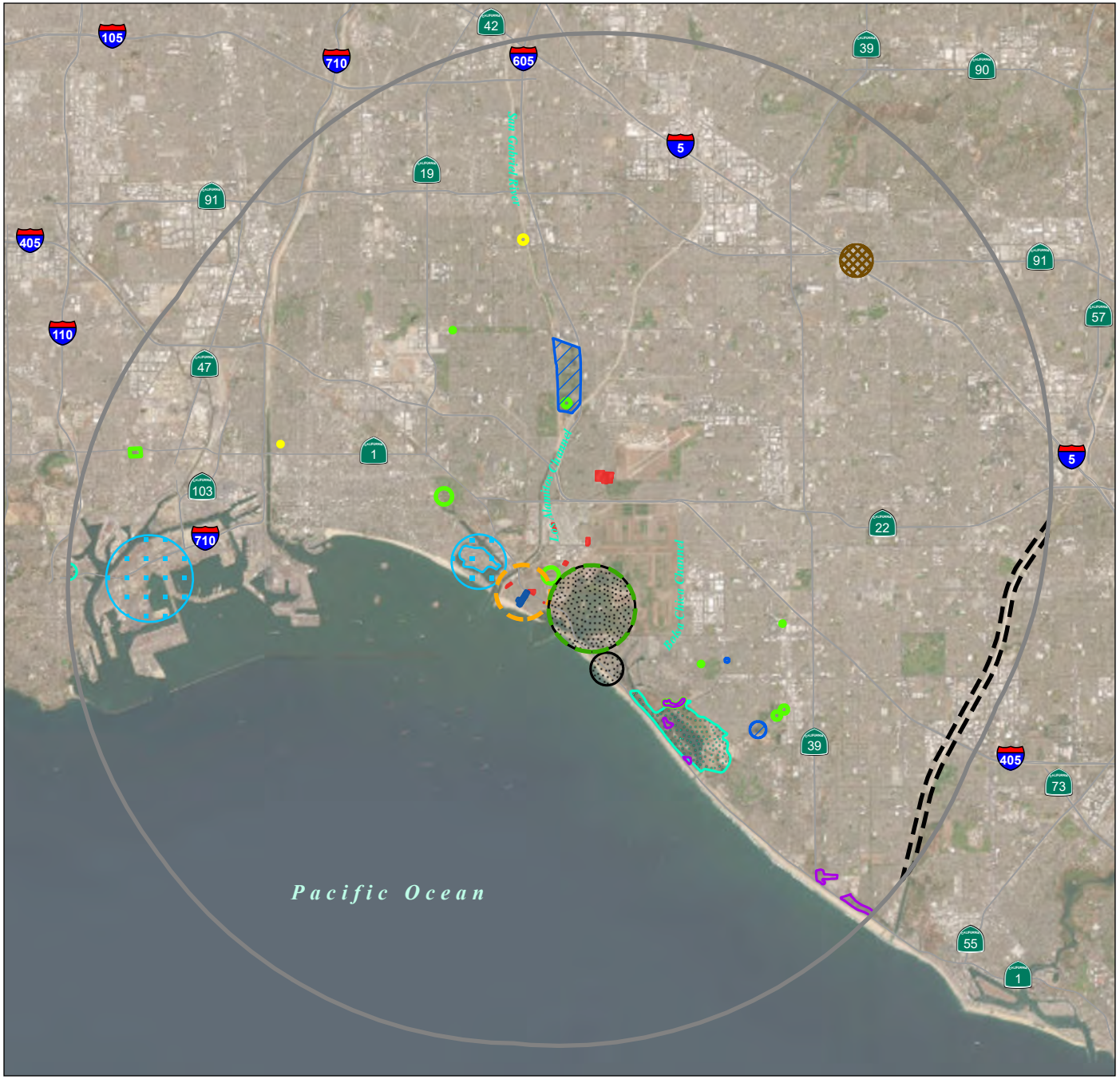

Stantec

- Sites
- Main Street Program
- 10 Mile Search Radius

10 Mile CNDDB Results

Wildlife

- mimic tryonia (=California brackishwater snail)
- monarch - California overwintering population
- quino checkerspot butterfly
- sandy beach tiger beetle
- senile tiger beetle
- silver-haired bat
- south coast marsh vole
- southern California saltmarsh shrew
- steelhead - southern California DPS
- tricolored blackbird
- wandering (=saltmarsh) skipper

N

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(At original document size of 8.5x11)
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Notes

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City of Seal Beach, California

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Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
4 - 5

Title
10 Mile CNDDB Results - Wildlife

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-21 By: kdelapena

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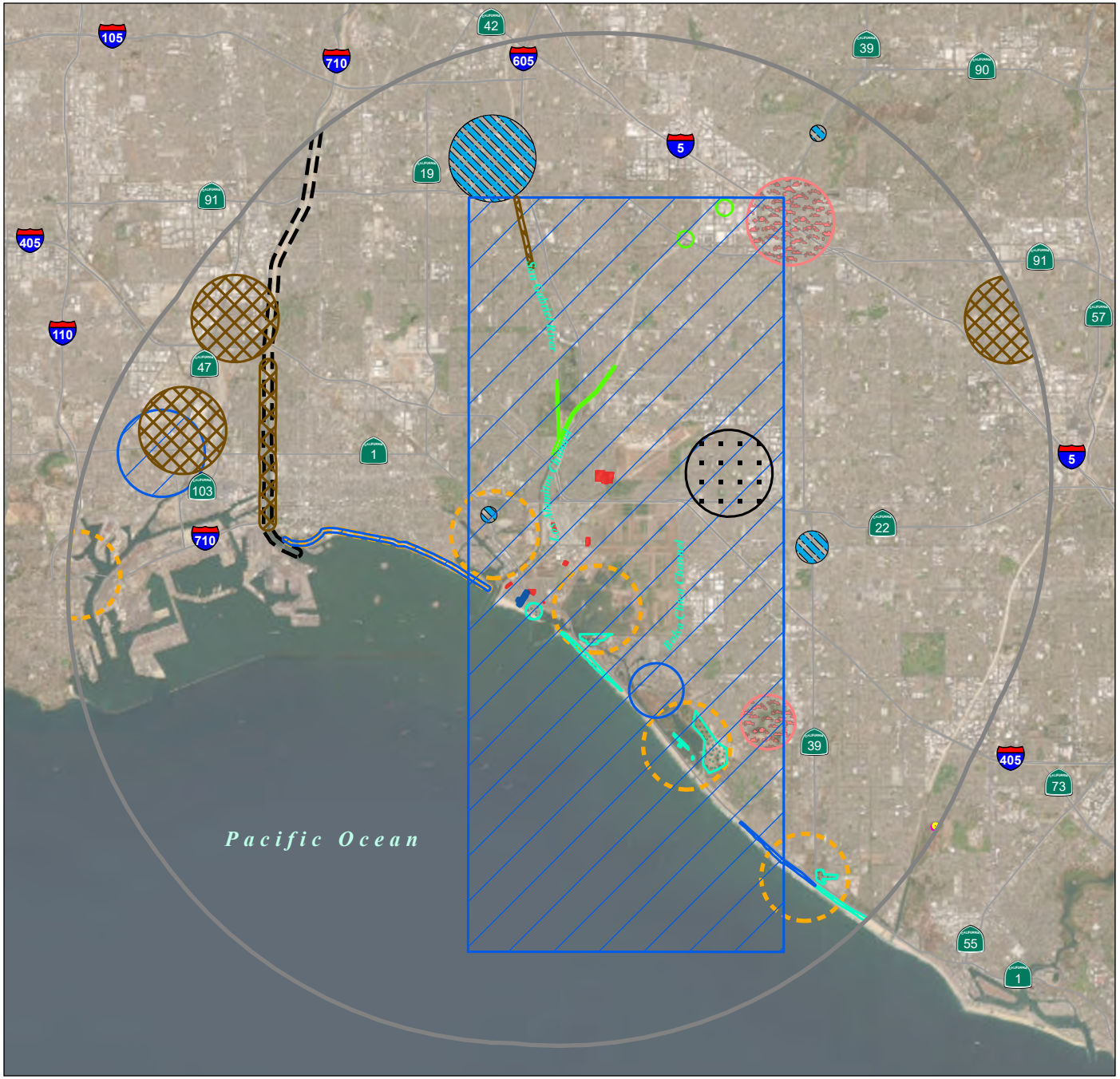

Stantec

Sites
Main Street Program
10 Mile Search Radius

10 Mile CNDDB Results

Wildlife

- western beach tiger beetle
- western mastiff bat
- western pond turtle
- western ridged mussel
- western snowy plover
- western spadefoot
- western tidal-flat tiger beetle
- western yellow bat
- western yellow-billed cuckoo
- yellow warbler
- yellow-breasted chat

N

0 1.75 3.5 Miles
(At original document size of 8.5x11)
1:38,006,721

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: City of Seal Beach 2024. CNDDB from CDFW 2024.
3. Background: World Imagery: Earthstar Geographics

Project Location
City of Seal Beach, California

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IR by JV on 2024-10-21

Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
4 - 6

Title
10 Mile CNDDB Results - Wildlife

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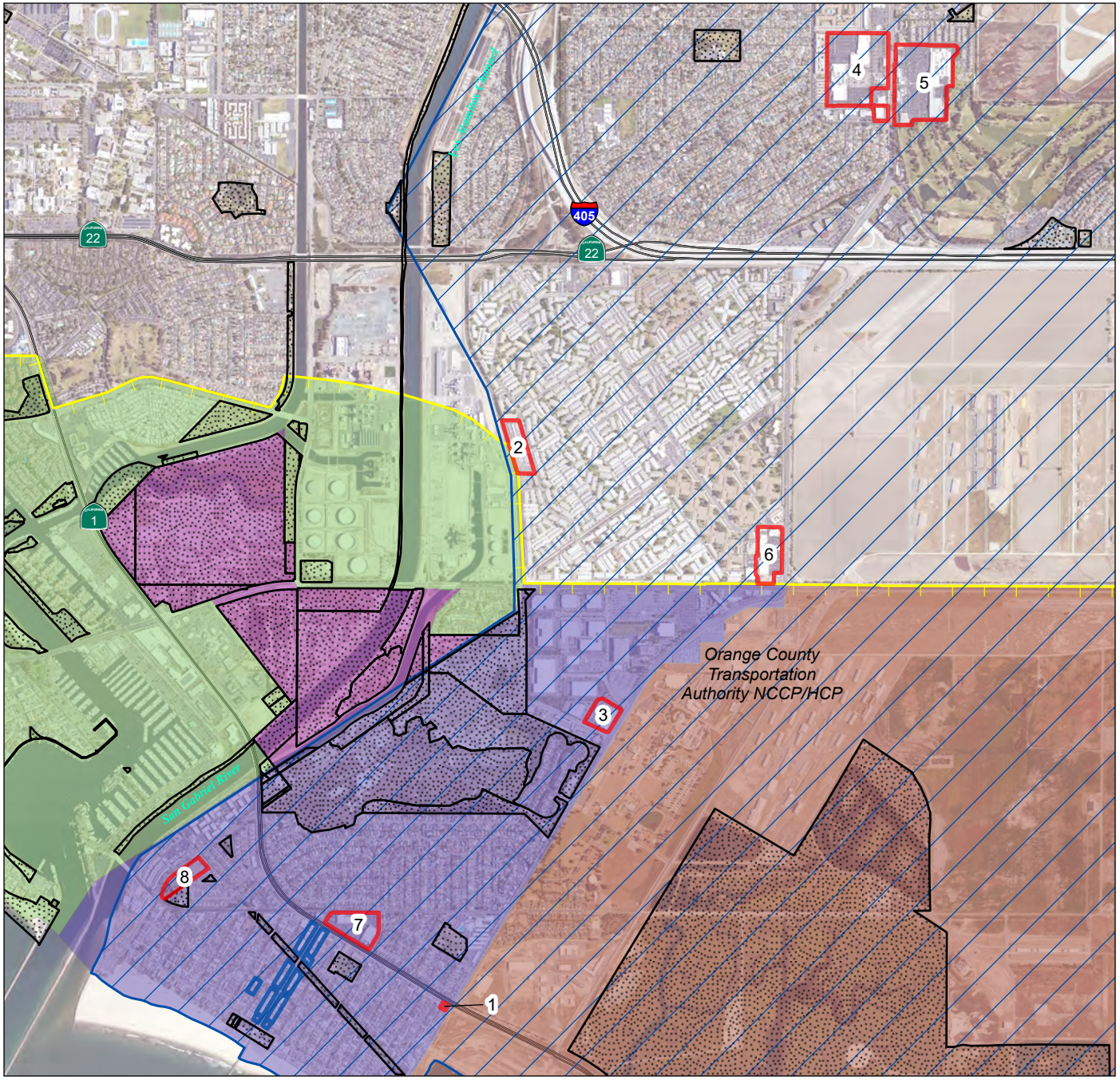

Stantec

- Sites
- Main Street Program
- Conservation Plan Boundaries, HCP and NCCP
- California Protected Areas
- Coastal Zone Management Act Boundary

Local Coastal Program Segments

- City of Long Beach
- City of Seal Beach
- SEADIP (Cerritos Wetlands) ADC
- Seal Beach - NWR - US Naval Weapons Station

N

0 1,000 2,000 Feet
(At original document size of 8.5x11)
1:38,006,721

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: City of Seal Beach 2024.
3. Background: NAIP 2022 60cm California: California 60cm NAIP Imagery 2022.

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-21
TR by SET on 2024-10-21
IR by JV on 2024-10-21

Client/Project
204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
5 - 1

Title
Regulated and Protected Areas

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-21 By: kdelapena

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Appendix B USFWS IPaC Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901

In Reply Refer To: January 16, 2024
Project Code: 2024-0036735
Project Name: City of Seal Beach Housing Element and Zoning Code Updates

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

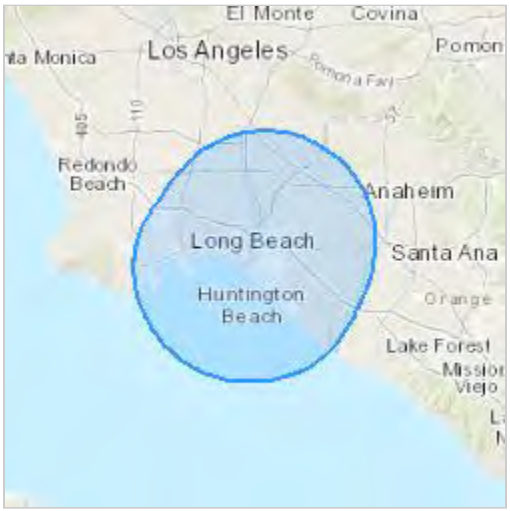
This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

PROJECT SUMMARY

Project Code: 2024-0036735
Project Name: City of Seal Beach Housing Element and Zoning Code Updates
Project Type: Residential Construction
Project Description: BRTR
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@33.76080425,-118.09023313760493,14z



Counties: Los Angeles and Orange counties, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 16 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Pacific Pocket Mouse *Perognathus longimembris pacificus*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/8080

BIRDS

NAME	STATUS
California Least Tern *Sternula antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Hawaiian Petrel *Pterodroma sandwichensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6746	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Light-footed Ridgeway""s Rail *Rallus obsoletus levipes* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6035	Endangered
Short-tailed Albatross *Phoebastria (=Diomedea) albatrus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/433	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

REPTILES

NAME	STATUS
Southwestern Pond Turtle *Actinemys pallida* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4768	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRUSTACEANS

NAME	STATUS
Riverside Fairy Shrimp *Streptocephalus woottoni* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8148	Endangered
San Diego Fairy Shrimp *Branchinecta sandiegonensis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6945	Endangered

FLOWERING PLANTS

NAME	STATUS
Salt Marsh Bird's-beak *Cordylanthus maritimus ssp. maritimus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6447	Endangered
San Diego Button-celery *Eryngium aristulatum var. parishii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5937	Endangered
Ventura Marsh Milk-vetch *Astragalus pycnostachyus var. lanosissimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1160	Endangered

CRITICAL HABITATS

There are 2 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* https://ecos.fws.gov/ecp/species/8178#crithab	Final
Western Snowy Plover *Charadrius nivosus nivosus* https://ecos.fws.gov/ecp/species/8035#crithab	Final

IPAC USER CONTACT INFORMATION

Agency:	Stantec
Name:	Allison Loveless
Address:	9797 Aero Drive
Address Line 2:	Suite 310
City:	San Diego
State:	CA
Zip:	92123
Email	ally.marcella@gmail.com
Phone:	5303559748

Appendix D
Cultural Resources Assessment

CULTURAL RESOURCES ASSESSMENT REPORT

City of Seal Beach Housing Element and Zoning Code Updates Project

April 18, 2025

Prepared for:
City of Seal Beach
211 Eight Street
Seal Beach, CA 90740

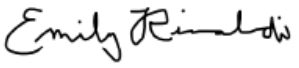
Prepared by:
Emily Rinaldi-Williams
E. Timothy Jones, M.A., RPA
Stantec Consulting Services Inc.
801 S. Figueroa Street, Suite 300
Los Angeles, CA 90017

Stantec Project Number: 2042665000

The conclusions in the Report titled Cultural Resources Assessment Report for the City of Seal Beach Housing Element and Zoning Code Updates Project are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from City of Seal Beach (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

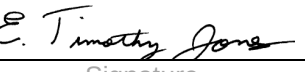
This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: 

Signature

Emily Rinaldi-Williams

Printed Name

Reviewed by: 

Signature

E. Timothy Jones

Printed Name

Approved by:

Signature

Susan Davis

Printed Name

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Executive Summary

Stantec Consulting Services Inc. (Stantec) prepared this Cultural Resources Assessment Report on behalf of the City of Seal Beach (City) for the City of Seal Beach Housing Element and Zoning Code Updates Project (Project). The Project identifies eight Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's Regional Housing Needs Allocation (RHNA). Additionally, the Project includes the Main Street Program area. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed because the current capacity of these underutilized sites is not sufficient to fully accommodate the RHNA in all income categories.

The Project is subject to compliance with the California Environmental Quality Act (CEQA), which requires the lead agency to assess whether a discretionary project would impact historical resources inclusive of historic built environment resources, precontact and historic archaeological resources, and tribal cultural resources. The City is the CEQA lead agency for the Project. In accordance with relevant state guidelines for cultural resources, this report identifies and documents potential cultural resources on or near the Housing Opportunity Sites and Main Street Program and assesses the Project's potential to result in a substantial adverse change to the significance of an archaeological or historical resource pursuant to Title 14 California Code of Regulations (CCR) §15064.5.

For this Cultural Resources Assessment Report, the Project area is defined as the eight Housing Opportunity Sites dispersed throughout Seal Beach as well as the Main Street Specific Plan area. To identify any listed or previously surveyed cultural resources on the Housing Opportunity Sites and Main Street Program, a records search was conducted at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS). The records search identified three precontact archaeological sites at, or in the vicinity of, one of the proposed Housing Opportunity Sites: P-30-000143, P-30-000246, and P-30-001546. These sites contain dietary shell, ground stone, and flaked stone artifacts. Two of these sites have reported Native American skeletal remains. Additionally, a Sacred Lands File search conducted at the Native American Heritage Commission yielded a "positive" result. The City is currently undertaking outreach and consultation with local Native American tribes to assess the Project's potential impacts to tribal cultural resources.

The threshold for determining significant impacts on historical resources in the CEQA Guidelines is whether the proposed project would cause a substantial adverse change, which is defined as demolition, destruction, relocation, or alteration, of the resource or its immediate vicinity such that the historical resource is materially impaired. The Project has the potential to have direct, indirect, and/or cumulative impacts on historical resources and archaeological cultural resources. Project impacts to built-environment historical resources may be potentially significant. Implementation of the recommended mitigation measures discussed in this report by the lead agency would reduce the impact to historical resources. With implementation of recommended mitigation measures, the Project's impacts to built-environment historical resources would be **less than significant**. Project impacts to archaeological

cultural resources and human remains may also be potentially significant, and mitigation is proposed to reduce this impact to **less than significant**.

Preparer Qualifications

Stantec personnel who meet the Secretary of the Interior's Professional Qualification Standards in architectural history, history, and/or archaeology as defined in 36 CFR Part 61 prepared this report. Stantec staff who prepared this report consist of Emily Rinaldi-Williams, E. Timothy Jones, and Althea Wunderler-Selby. Ms. Rinaldi is a Stantec Senior Architectural Historian who received a Master of Science degree in Historic Preservation from Columbia University and has more than nine years of cultural resources management experience. Ms. Rinaldi-Williams qualifies as an Architectural Historian and Historian under the Secretary of the Interior's Professional Qualification Standards. E. Timothy Jones is a Stantec Principal Archaeologist who received a Master of Arts degree in Cultural Resources Management from Sonoma State University. He is a Registered Professional Archaeologist with 23 years of cultural resources management experience and qualifies as an Archeologist under the Secretary of the Interior's Professional Qualification Standards. Ms. Wunderler-Selby is a Stantec Architectural Historian who holds a Bachelor of Arts degree in History from the University of Rhode Island and a Master of Science degree in Historic Preservation from the University of Oregon. She has five years of cultural resources management experience and qualifies as an Architectural Historian and Historian under the Secretary of the Interior's Professional Qualification Standards.

1 Project Overview

1.1 Project Description

The Seal Beach City Council adopted the City of Seal Beach's Housing Element Update on February 7, 2022. In response to the California Department of Housing and Community Development (HCD) comment, the City updated the Housing Element Update on August 24, 2023. The Housing Element Update was then updated again in March 2024 in response to comments received from HCD. The most up-to-date version of the Housing Element Update is from August 2024. The City prepared the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. It is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent, and affordable housing and affirmatively furthering fair housing during the housing cycle. The City's latest Regional Housing Needs Assessment (RHNA) allocation calls for 1,243 new housing units, including 459 new units for residents in the low- and very low-income categories. The Project involves implementation of the Housing Element and Zoning Code Update, including establishment of the new zoning designation and rezoning of sites resulting from Project implementation which would result in increased densification of residential uses.

The Housing Element Update identifies Housing Opportunity Sites throughout the City, as shown on Figure 2, that have the potential for providing additional housing to meet the City's RHNA allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed. The Housing Element Update identifies eight Housing Opportunity Sites, two of which are underutilized sites that do not require rezoning and the remaining six sites are proposed for zoning modifications.

In addition to the Housing Opportunity Sites, the Housing Element Update includes a proposal of the Main Street Program. The Housing Element Update's Main Street Program does not identify specific Housing Opportunity Sites but would modify the existing Main Street Specific Plan to allow for residential units to be developed at select properties located within the Main Street Specific Plan area.

In addition to the Housing Opportunity Sites and the Main Street Program, the site location of the residential component of the Old Ranch Country Club (ORCC) Specific Plan Project is reviewed at a programmatic level; however, the information provided herein is for informational purposes only and a standalone Environmental Impact Report (EIR) is being prepared for the ORCC Specific Plan Project.

For a full project description, see the *City of Seal Beach Housing Element and Zoning Code Updates Project Draft Environmental Impact Report* (Stantec 2024).

1.2 Project Location

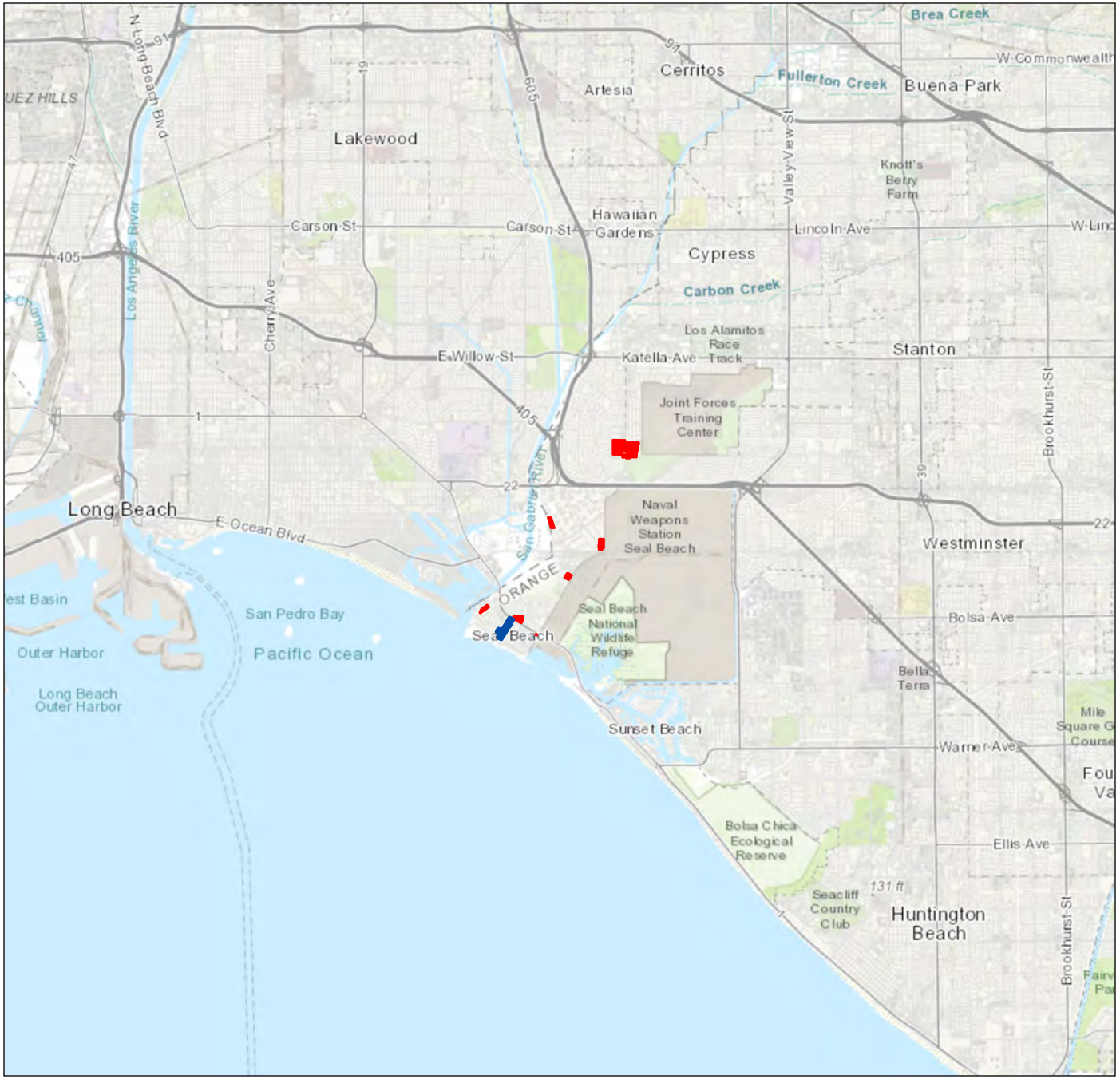
The Project area currently comprises eight Housing Opportunity Sites dispersed throughout the City of Seal Beach and totaling approximately 83.45 acres. However, the majority of the Housing Opportunity

Sites would only allow for development within portions of the overall Housing Opportunity Site due to existing development, and therefore, the total developable acres for the Housing Opportunity Sites would total 35.05 acres. Additionally, the Project area includes the Main Street Specific Plan area. The Main Street Program falls within the boundaries of the existing 21-acre Main Street Specific Plan area located within the City and the development potential for the Main Street Program is not based on potential developable acreage but rather the number of units that could be developed at select locations within the Main Street Specific Plan area.

The City is located at the northwestern edge of Orange County (County), California. It borders the City of Long Beach and Los Angeles County to the northwest, the Orange County Cities of Los Alamitos to the north, Westminster to the east, Huntington Beach to the southeast, and the Pacific Ocean to the southwest. The City has a land area of approximately 13 square miles (Figure 1). The locations of the eight identified sites are shown in Figure 2 and listed in Table 1.

Table 1. Housing Opportunity Sites

Site No.	Site Name	Location	Assessor Parcel Number(s)
1	1780 Pacific Coast Hwy	1780 Pacific Coast Hwy	199-061-01
2	Leisure World	13681 El Dorado Dr	095-691-04
3	Accurate Storage	1011 Seal Beach Blvd	095-791-18
4	The Shops at Rossmoor	12343 Seal Beach Blvd	086-492-51
5	Old Ranch Town Center	East side of Seal Beach Blvd between Plymouth Dr and St. Cloud Dr	130-861-14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27
6	Seal Beach Plaza	West side of Seal Beach Blvd between Westminster Blvd and St. Andrews Dr	095-641-44, -49, -55, -56, -57
7	Seal Beach Center	901 Pacific Coast Hwy, 1111 Pacific Coast Hwy	043-260-02, -05
8	99 Marina Drive	99 Marina Dr	199-011-10



Stantec

Sites

Optional Site for Future Development

N

0 1 2 Miles

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

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Data Sources: City of Seal Beach 2024.

3. Background: World Topographic Map: City of Long Beach, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS
World Ocean Base: Esri, GEBCO, Garmin, NaturalVue
World Ocean Reference: Esri, GEBCO, Garmin, NGS

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-17
IR by TJ on 2024-10-17

Client/Project
204266500

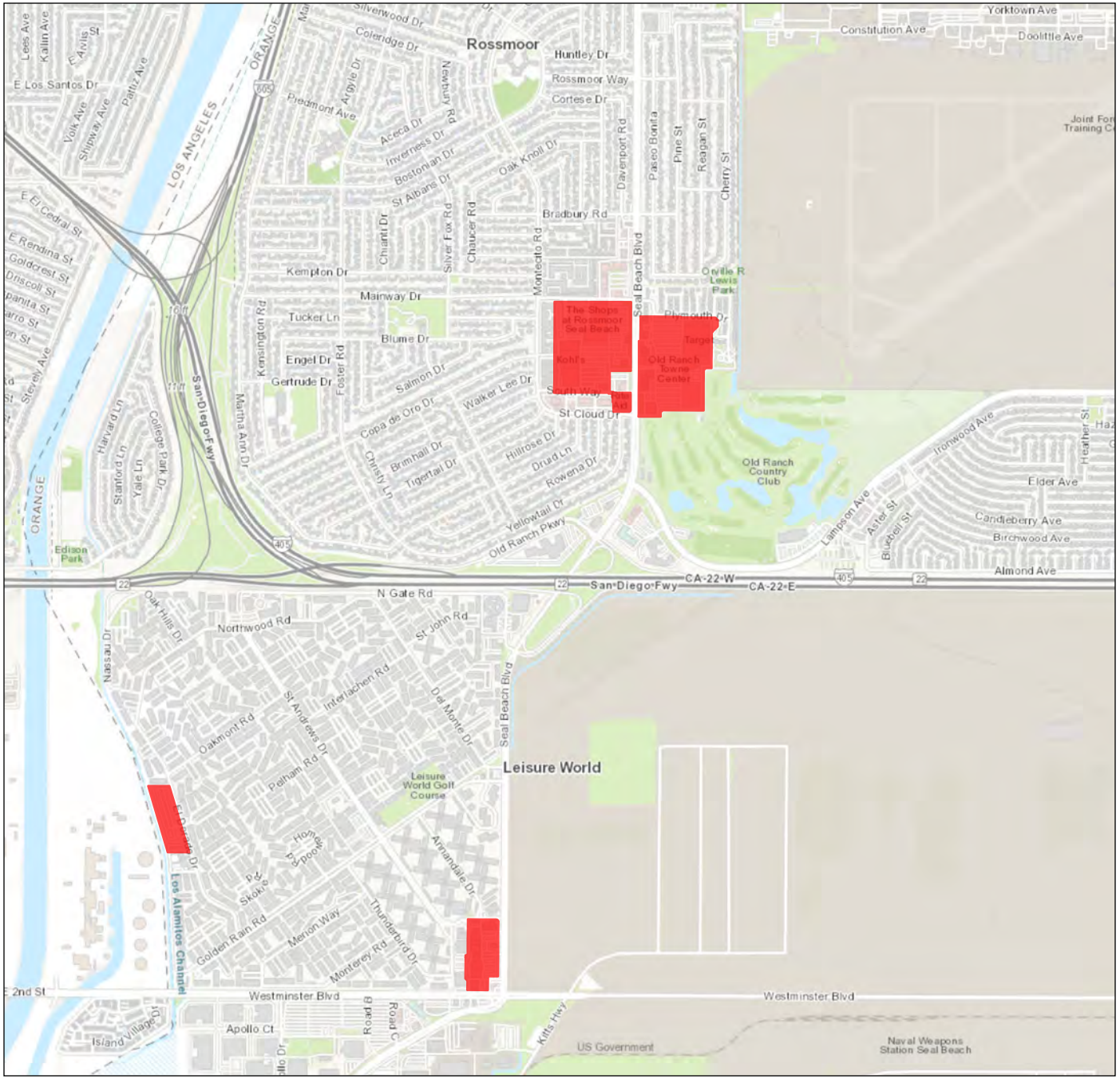
City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
1

Title
Project Location and Vicinity

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-17 By: kdelapena

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.



Stantec

Sites

N

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:24,000

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

2. Data Sources: City of Seal Beach 2024.

3. Background: World Ocean Reference: NOAA OCS, Esri, Garmin
World Topographic Map: City of Long Beach, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA
World Ocean Base: Esri, Garmin, NaturalVue

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-17
IR by TJ on 2024-10-17

Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
2 - 1

Title
Project Location

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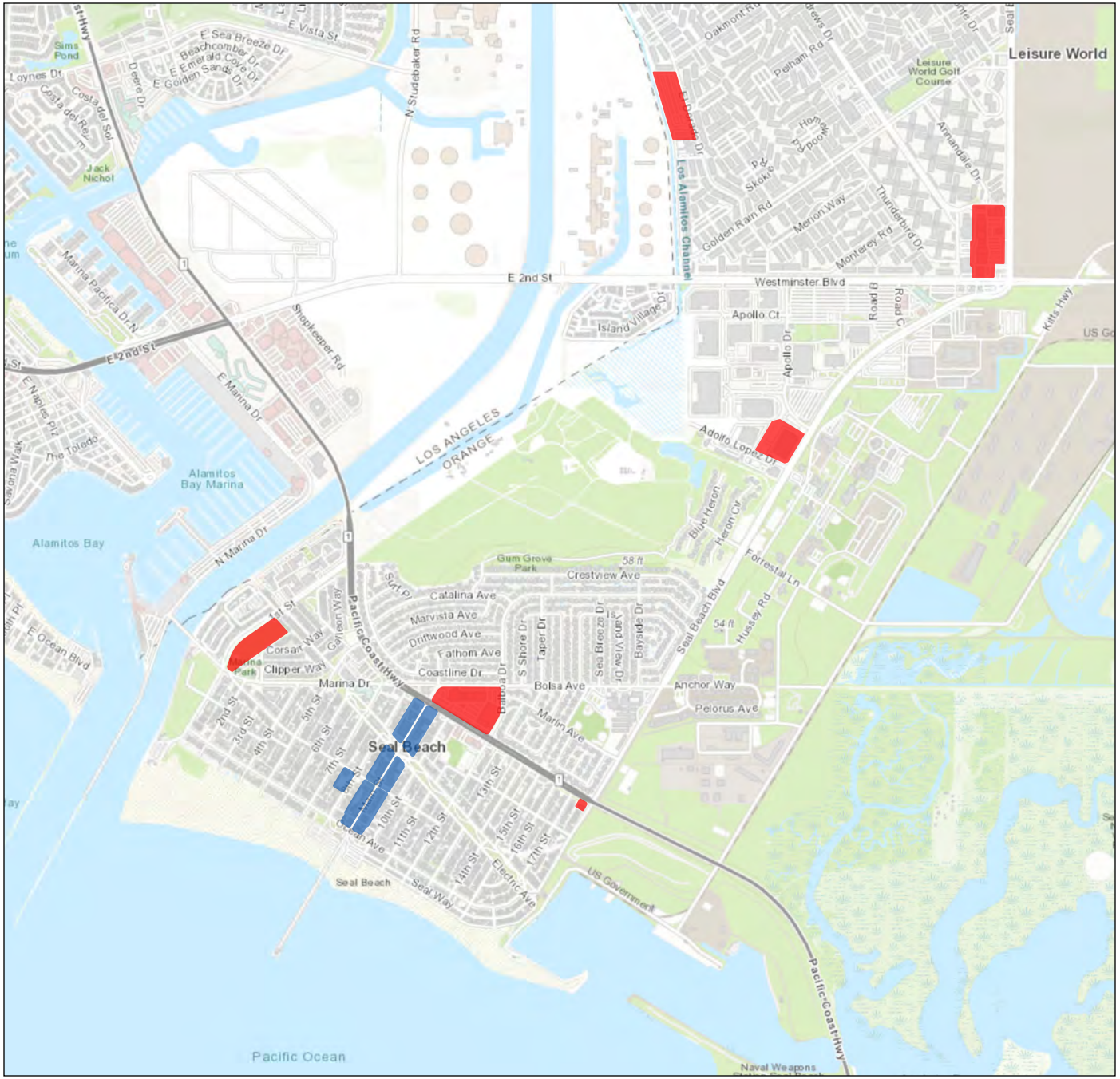

Stantec

- Sites
- Optional Site for Future Development

N

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:24,000

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

2. Data Sources: City of Seal Beach 2024.

3. Background: World Topographic Map: City of Long Beach, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA
World Ocean Base: Esri, GEBCO, Garmin, NaturalVue
World Ocean Reference: Esri, GEBCO, Garmin, NGS

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-17
IR by TJ on 2024-10-17

Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
2 - 2

Title
Project Location

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-17 By: kdelapena

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2 Regulatory Context

Generally, a lead agency must consider a property a historical resource under the California Environmental Quality Act (CEQA)—inclusive of historic built resources and precontact/historic archaeological resources—if it is eligible for the California Register of Historical Resources (CRHR), which is modeled after the National Register of Historic Places (NRHP). A property is presumed to be historically significant if it is listed in a local register of historical resources or has been identified as historically significant in a historic resources survey (provided certain statutory criteria and requirements are satisfied) unless a preponderance of evidence demonstrates that the property is not historically or culturally significant. A lead agency may also treat a resource as historical if it meets statutory requirements and substantial evidence supports the conclusion.

2.1 National Register of Historic Places

The National Historic Preservation Act of 1966, as amended, authorized the creation of the NRHP. The NRHP is "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment (Title 36 CFR Part 60.2)." For a property to be considered eligible for the NRHP, it must typically be at least 50 years old and meet one or more of four criteria for evaluation set forth in 36 Code of Federal Regulations Part 60.4:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B. That are associated with the lives of persons significant in our past; or
>
> C. That embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D. That have yielded, or may be likely to yield, information important in prehistory or history (Title 36 CFR Part 60.4).

A property must also be significant within a historic context under one or more of the criteria listed above. "National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation" states that the significance of a historic property can be judged only when it is evaluated within its historic context. Historic contexts are "those patterns, themes, or trends in history by which a specific...property or site is understood and its meaning...is made clear (Title 36 CFR Part 60.4)." A historic property must therefore represent an important aspect of history or prehistory.

In addition to possessing significance, a property must possess integrity, defined by seven aspects:

Location: the place where the historic property was constructed or the place where the historic event took place.

Design: the composition of elements that constitute the form, plan, space, structure, and style of a property.

Setting: the physical environment of a historic property that illustrates the character of the place.

Materials: the physical elements combined in a particular pattern or configuration.

Workmanship: the physical evidence of the crafts of a particular culture or people during any given period of history.

Feeling: the quality that a historic property has in evoking the aesthetic or historic sense of a past period of time.

Association: the direct link between a property and the event or person for which the property is significant (Andrus and Shrimpton undated).

2.2 California Register of Historical Resources

The CRHR was established in 1992 by Assembly Bill 2881. It is an authoritative guide used by state and local agencies, private groups, and citizens to identify historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse impacts (Andrus and Shrimpton undated). The criteria for eligibility of listing in the CRHR are based upon the NRHP criteria, and are identified as 1–4 instead of A–D. To be eligible for the CRHR, a property generally must be at least 50 years of age and must possess significance at the local, state, or national level, under one or more of these four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

Like the NRHP, properties eligible for the CRHR may include buildings, sites, structures, objects, and districts. The enabling legislation for the CRHR is less rigorous than the NRHP with regard to the issue of integrity, yet the expectation is that eligible properties should retain enough of their historic-period character or appearance to be recognizable as historical resources and to convey the reasons for their significance (California OHP undated).

Evaluations for the CRHR are based upon the evaluation instructions and classification system prescribed by the California Office of Historic Preservation (OHP) in its “Instructions for Recording

Historical Resources," which include Status Codes to classify potential historical resources. These Status Codes are used statewide in the preparation of historical resource surveys and evaluation reports. The specific Status Codes referred to in this report are:

2S2 Individually determined eligible for the NRHP by consensus through Section 106 process. Listed in the CRHR.

5S1 Individually listed or designated locally.

6Y Determined ineligible for the NRHP by consensus through Section 106 process – Not evaluated for CRHR or local listing. Appears individually eligible for the NRHP through survey evaluation.

7P State Point of Historical Interest that does not meet the CRHR criteria.

The CRHR may include properties identified during historic resource surveys. However, properties included must be based on surveys that meet these criteria:

1. The survey has been or will be included in the State Historic Resources Inventory;
2. The survey and the survey documentation were prepared in accordance with office (OHP) procedures and requirements;
3. The resource is evaluated and determined by the office (OHP) to have a significance rating of Category 1 to 5 on a DPR Form 523; and
4. If the survey is five or more years old at the time of its nomination for inclusion in the CRHR, the survey is updated to identify historical resources that have become eligible or ineligible due to changed circumstances or further documentation and those that have been demolished or altered in a manner that substantially diminishes the significance of the resource (Public Resources Code [PRC] Section 5024.1).

2.3 California Environmental Quality Act

The State CEQA Guidelines set the standard for determining whether a proposed project will result in a "substantial adverse change" in the significance of historical resources in Title 14 CCR Section 15064.5(b), which states:

> "A project with an effect 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 (Title 14 CCR Section 15064.5[b])."

Title 14 CCR Section 15064.5(b)(1) further clarifies "substantial adverse change" as:

> "Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (Title 14 CCR Section 15064.5[b][1])."

Title 14 CCR Section 15064.5(b)(2) in turn explains that 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 eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA (Title 14 CCR Section 15064.5[b][2])."

As a result, the test for determining if a proposed project will have a significant impact on an identified historical resource is whether the project will alter the physical integrity of the historical resource in an adverse manner such that it would no longer be eligible for the NRHP, the CRHR, or other landmark programs.

This report considers direct, indirect, and cumulative impacts to historical resources using these definitions:

- Direct or primary impacts are caused by the project and occur at the same time and place (Title 14 CCR §15358 [a][1]).
- Indirect impacts, or secondary effects, are reasonably foreseeable and caused by a project but occur at a different time or place (Title 14 CCR §15358 [a][2]).
- Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (14 CCR Section 15355).

If an impact on a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (14 CCR Section 15126.4 (a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project would have on the resource. CEQA requires that all feasible mitigation be undertaken even if it does not mitigate impacts to less-than-significant levels (14 CCR Section 15126.4(a)(1)).

2.4 Assembly Bill 52 (AB 52)

Assembly Bill (AB) 52, which became law on January 1, 2015, provides for consultation with California Native American tribes during the CEQA process, and equates significant impacts to "tribal cultural resources" with significant environmental impacts. PRC Section 21074 states that "tribal cultural resources" are:

Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and are one of the following:

- Included or determined to be eligible for inclusion in the CRHR.
- Included in a local register of historical resources as defined in subdivision (k) of PRC Section 5020.1.

- 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A "historical resource" (PRC Section 21084.1), a "unique archaeological resource" (PRC Section 21083.2(g)), or a "non-unique archaeological resource" (PRC Section 21083.2 (h)) may also be a tribal cultural resource if it is included or determined to be eligible for inclusion in the CRHR.

The consultation provisions of the law require that a public agency consult with local Native American tribes that have requested placement on that agency's notification list for CEQA projects. Within 14 days of determining that a project application is complete, or a decision by a public agency to undertake a project, the lead agency must notify tribes of the opportunity to consult on the project, should a tribe have previously requested to be on the agency's notification list. California Native American tribes must be recognized by the Native American Heritage Commission (NAHC) as traditionally and culturally affiliated with the project site and must have previously requested that the lead agency notify them of projects. Tribes have 30 days following notification of a project to request consultation with the lead agency.

The purpose of consultation is to inform the lead agency in its identification and determination of the significance of tribal cultural resources. If a project is determined to result in a significant impact on an identified tribal cultural resource, the consultation process must occur and conclude prior to adoption of a Negative Declaration or Mitigated Negative Declaration, or certification of an Environmental Impact Report (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

2.5 California Health and Safety Code Section 7050.5

Section 7050.5 of the California Health and Safety Code (HSC) states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification.

2.6 California Public Resources Code Section 5097.98

Section 5097.98 of the California PRC states that the NAHC, upon notification of the discovery of Native American human remains pursuant to HSC Section 7050.5, shall immediately notify those persons (i.e., the Most Likely Descendent or "MLD") it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site.

2.7 City of Seal Beach

The City of Seal Beach adopted Resolution No. 6584 on July 27, 2015, which established the Historic Preservation Committee. The Committee comprises five citizens, one from each of the five Voting Districts with an interest in preserving resources associated with the history and culture of Seal Beach. The City also adopted Resolution No. 6618 on January 25, 2016, that established guidelines, policies, and procedures for designating historic resources. Eight guidelines were adopted for designation, and only one needs to be met in order for the City to designate a historic resource.

The City's Residential Conservation Overlay District Ordinance (Ordinance No. 1598) defines locally significant historic structures as "those residential structures constructed prior to 1925" (Title 11 Part III Chapter 11.3.05.005). The Ordinance states:

> "These locally-significant historic structures represent the city's unique historical, social and cultural foundations and should be preserved as living parts of community life and development in order to build a greater understanding of the city's past and give future generations the opportunity to appreciate, understand and enjoy the city's remaining historic heritage (Title 11 Part III Chapter 11.3.05.005)."

Unlike the NRHP and CRHR, the City's Residential Conservation Overlay District Ordinance has no criteria for designating properties as locally-significant historic structures and makes no mention of concepts such as physical integrity or period of significance.

The Seal Beach Historic Resources Foundation currently acts as a hub and repository for historic photographs and stories to preserve and celebrate the history of Seal Beach.

3 Environmental and Cultural Settings

3.1 Housing Opportunity Sites Description

The Project comprises eight Housing Opportunity Sites dispersed over the city's roughly 13 square miles. The sites range in size from 0.25 to 27 acres. Most are developed with commercial or mixed-use buildings that have a range of construction dates from the early twentieth century to the 2010s (Table 2). The sites are generally within highly developed, urban areas along major thoroughfares, including the Pacific Coast Highway and Seal Beach Boulevard. The topography is relatively flat and adjacent buildings are generally low scale, one to two stories tall.

Stantec compiled the following site descriptions via a desktop survey using Google Street View. Google Street View images generally range from 2021 to 2023.

Table 2. Estimated Year Built for Properties within Housing Opportunity Sites

Site No.	Site Name	Location	Assessor Parcel Number(s)	Estimated Year Built
1	1780 Pacific Coast Hwy	1780 Pacific Coast Hwy	199-061-01	1966
2	Leisure World	13681 El Dorado Dr	095-691-04	ca. 1970
3	Accurate Storage	1011 Seal Beach Blvd	095-791-18	ca. 1980
4	The Shops at Rossmoor			
	Building 4A	12343 Seal Beach Blvd	086-492-51	ca. 2007
	Building 4B			ca. 2007
	Building 4C			ca. 1970
	Building 4D			ca. 2003
	Building 4E			ca. 2003
	Building 4F			ca. 2011
	Building 4G			ca. 2011
	Building 4H			ca. 2011
	Building 4I			ca. 2013
	Building 4J			ca. 2013
5	Old Ranch Town Center	East side of Seal Beach Blvd between Plymouth Dr and St. Cloud Dr	130-861-14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27	ca. 2001
6	Seal Beach Plaza			
	Building 6A	West side of Seal Beach Blvd between Westminster Blvd and St. Andrews Dr	095-641-44, -49, -55, -56, -57	ca. 1965
	Building 6B			ca. 2001
	Building 6C			ca. 1960
	Building 6D			ca. 1960
	Building 6E			ca. 1965

Site No.	Site Name	Location	Assessor Parcel Number(s)	Estimated Year Built
	Building 6F			ca. 1965
	Building 6G			ca. 1960
	Building 6H			ca. 1960
	Building 6I			ca. 1960
	Building 6J			ca. 1970
	Building 6K			ca. 2005
	Building 6L			ca. 1970
7	Seal Beach Center			
	Building 7A	901 Pacific Coast Hwy, 1111 Pacific Coast Hwy	043-260-02, -05	1966
	Building 7B			1966
	Building 7C			ca. 2007
8	99 Marina Drive	99 Marina Dr	199-011-10	ca. 1975

Site 1 – 1780 Pacific Coast Highway

Photograph 1. View of Site 1, looking southwest (Google Street View, September 2022).

Site 1 is approximately 0.25 acres at the southwestern corner of the Pacific Coast Highway and Seal Beach Boulevard intersection (Photograph 1). A one-story, Mid-Century Modern commercial building constructed in 1966 is located along the south parcel boundary with an asphalt-paved surface parking lot to the north (NETR 1963, 1972; The Golden Rain Seal Beach Leisure World News 1966b). The building has a front gable roof and is constructed of masonry that has been painted. Two commercial storefronts extend along the north façade with large plate glass, metal-frame windows. One entrance is on the east façade and consists of paired fully-glazed metal doors. The other entrance is near the west end of the north façade and consists of a single fully-glazed metal door.

Site 2 – Leisure World

Photograph 2. View of Site 2, looking southwest (Google Street View, January 2018).

Site 2 is approximately 5.5 acres on the west side of El Dorado Drive near the Knollwood Road intersection (Photograph 2). It is bordered on the west by the Los Alamitos Flood Control Channel. The site is an RV parking lot built between 1963 and 1972 (NETR, 1963, 1972). It is paved with asphalt and surrounded by a concrete block wall and metal chain link fence.

Site 3 – Accurate Storage

Photograph 3. View of Site 3, looking northwest (Google Street View, September 2022).

Site 3 is approximately four acres on the west side of Seal Beach Boulevard between Apollo Drive and Adolfo Lopez Drive (Photograph 3). A one-story self-storage commercial warehouse built between 1972 and 1988 is located near the east parcel boundary with an asphalt-paved surface parking lot to the west (NETR 1972, 1988). The building is of no particular style. It has a flat roof surrounded by a concrete

parapet and is constructed of concrete. The main entrance is near the south end of the west façade and consists of a single fully-glazed metal door. Rows of deeply recessed metal-frame picture windows with metal bulkheads wrap around the southwest corner.

Site 4 – The Shops at Rossmoor

Site 4 is approximately 27 acres on the west side of Seal Beach Boulevard between St. Cloud Drive and Rossmoor Center Way. Ten commercial buildings are located on the parcel with the remainder occupied by an asphalt-paved surface parking lot.

Photograph 4. View of Buildings 4A–4C, looking southwest (Google Street View, March 2021).

Building 4A is at the north end of the parcel adjacent to Rossmoor Center Way (Photograph 4). It was likely constructed between 2005 and 2009 and is one story in height and rectangular in plan (NETR 2005, 2009). It has a flat roof with a concrete cornice and is clad in composition panels. The main entrance is on the west façade within a projecting arcade topped by a metal awning. The entrance consists of two paired fully-glazed sliding metal doors within metal storefront infill. To the north of the entrance fixed metal clearstory windows topped with a flat awning rise above the adjacent roofline.

Building 4B is immediately to the south of Building 4A and shares a party wall (Photograph 4). It was likely constructed between 2005 and 2009 and is one story in height and rectangular in plan (NETR 2005, 2009). It has a flat roof with a concrete cornice. A parapet that is taller than the adjacent roofline is centered on the east façade. The exterior is clad in composition panels. The main entrance is on the east façade beneath the parapet and flanked by piers. The entrance contains two paired fully-glazed sliding metal doors within metal storefront infill.

Building 4C is to the south of Building 4B, separated by an alley (Photograph 4). It was constructed between 1963 and 1972 with an addition on the east façade constructed between 1972 and 1988 (NETR 1963, 1972, 1988). The building is one story in height and rectangular in plan. It has a flat roof with concrete coping and is clad in stucco, brick, and composition panels. It has three entrances along the

south façade within rectangular entry surrounds projecting southward from the adjacent wall plane. All entrances consist of paired fully-glazed sliding metal doors within metal storefront infill and are topped by metal awnings.

Building 4D is to the southwest of Building 4C, separated by a driveway. The building was constructed between 2002 and 2003 and is one story in height and irregular in plan (NETR 2002, 2003). It has a flat roof with a concrete cornice and is generally clad in stucco. The main entrance is at the center of the east façade and consists of paired fully-glazed sliding metal doors with fixed metal windows to the north. Six stucco-clad piers with tile-clad bases ornament the east façade. The building is topped by a metal awning.

Photograph 5. View of Buildings 4E and 4F, looking northwest (Google Street View, January 2021).

Building 4E is to the south of Building 4D and shares a party wall (Photograph 5). It was constructed between 2002 and 2003 and is one story in height and irregular in plan (NETR 2002, 2003). The building has a flat roof with a concrete cornice and is clad in brick, stucco, permastone, and tile. The main entrance is at the center of the east façade. It is recessed within an arched cast stone door surround and consists of two paired fully-glazed metal doors. It is topped by a semicircular flat awning. Stepped piers and concrete panels with cast stone surrounds frame the main entrance.

Building 4F is to the south of Building 4D and shares a party wall (Photograph 5). It was constructed between 2010 and 2012 and is one story in height and irregular in plan (NETR 2010, 2012). It has a flat roof with concrete coping and is clad in stucco, brick, and composition panels. The main entrance is at the center of the east façade within a rectangular entry surround projecting eastward from the adjacent wall plane and topped by a flat awning. The entrance consists of paired sliding metal doors flanked by paired fully-glazed metal doors. Fixed metal windows are above the main entrance.

Building 4G is to the east of Building 4C along the east parcel boundary. It was constructed between 2010 and 2012 and is one story in height and rectangular in plan (NETR 2010, 2012). It has a flat roof with a concrete coping and is clad in composition panels and stucco. Four storefronts are on the west façade, each with paired fully-glazed metal doors and metal storefront infill. Fixed metal clearstory windows topped with a flat awning rise above the adjacent roofline at the west façade's south end.

Photograph 6. View of Building 5H, looking northwest (Google Street View, January 2023).

Building 4H is to the south of Building 4G near the east parcel boundary (Photograph 6). The building was constructed between 2010 and 2012 and is one story in height and rectangular in plan (NETR 2010, 2012). It has a flat roof surrounded with a concrete cornice and is clad in stucco. The building also has three towers with clay-tile-clad hipped roofs—one near the center of the north façade, a second at the southwest corner, and a third at the southeast corner. A flat-roofed awning supported by stucco-clad columns is along the south façade. The main entrances are at the north and southwest towers. Both consist of paired fully-glazed metal doors within metal storefront infill. The windows are fixed metal sashes.

Building 4I is to the east of Building 4F. It was constructed between 2012 and 2014 and is one story in height and rectangular in plan (NETR 2012, 2014). It has a flat roof with a concrete coping and is clad in composition panels and stucco. Three storefronts are on the north façade. All have a single fully-glazed metal door within metal storefront infill. The eastern storefront is topped by a flat awning. The windows are fixed metal sashes.

Building 4J is at the southeast corner of the parcel. The building was constructed between 2012 and 2014 and is one story in height and rectangular in plan with a curved façade at the southeast corner (NETR 2012, 2014). It has a flat roof with a concrete coping and is clad in composition panels and stucco. The main entrance is at the curved southeast corner. It consists of paired fully-glazed sliding metal doors within metal storefront infill. The windows are fixed metal sashes.

Site 5 – Old Ranch Town Center

Site 5 is approximately 26 acres on the east side of Seal Beach Boulevard between St. Cloud Drive and Plymouth Drive. Eleven commercial buildings constructed between 2000 and 2002 with elements of the New Traditional style are located on the site. The remainder is occupied by an asphalt-paved surface parking lot (NETR 2000, 2002).

Photograph 7. View of Building 5A and 5B, looking southeast (Google Street View, June 2017).

Building 5A is at the northeast corner of the site (Photograph 7). It is one story in height and rectangular in plan. The building has a flat roof topped by a concrete cornice and is clad in brick, stucco, composition siding, and permastone. Near the south end of the west façade is a projecting entry surround topped by a front gable roof. The main entrance is within an arched opening beneath the gable and consists of seven paired or single fully-glazed metal doors within metal storefront infill. To the north and south of the main entrance are flat-roofed arcades with columns clad in composition siding and permastone.

Building 5B is to the south of Building 5A and shares a party wall (Photograph 7). It is one story in height and rectangular in plan. The building has a flat roof topped by a concrete cornice and is clad in brick, stucco, composition siding, and permastone. Near the south end of the west façade is a projecting entry surround topped by a hipped roof. The main entrance is within an arched opening beneath the hipped roof and consists of paired, fully-glazed sliding metal doors within metal storefront infill. To the north and south of the main entrance are flat-roofed arcades with columns clad in stucco and permastone.

Building 5C is to the south of Building 5B and shares a party wall. It is one story in height and rectangular in plan. The building has a flat roof topped by a concrete cornice and is clad in brick, stucco, composition siding, and permastone. An arcade with a hipped roof is along the west façade and is flanked by towers, also with hipped roofs. Within the arcade are seven storefronts—all with paired fully-glazed doors and metal storefront infill.

Building 5D is to the south of Building 5C and shares a party wall. It is one story in height and rectangular in plan. The building has a flat roof topped by a concrete cornice and is clad in brick, stucco, composition siding, and permastone. At the center of the west façade is a projecting front gabled volume. Flanking the front gabled volume are projecting entry surrounds with arched openings and hipped roofs. Within the arched openings, the main entrances consist of paired fully-glazed sliding metal doors within metal storefront infill. The windows are all fixed metal sashes.

Building 5E is near the northwest corner of the site. It is one story in height and rectangular in plan. The building has a flat roof with a concrete cornice and a hipped tower at the southeast corner. The exterior is primarily clad in composition siding. The main entrance is on the south façade and consists of paired

fully-glazed metal doors within metal storefront infill. The windows are all fixed metal sashes. Metal awnings are on the south and east façades.

Building 5F is to the south of Building 5E. It is one story in height and rectangular in plan. The building has a flat roof with metal coping and is clad in composition siding, metal siding, and permastone. The main entrance is recessed at the southwest corner and consists of a single multi-light metal door. The windows are all fixed metal multi-light sashes. The southwest corner is ornamented by a stepped parapet.

Photograph 8. View of Building 5G and 5H, looking east (Google Street View, January 2023).

Building 5G is to the south of Building 5F (Photograph 8). It is one story in height and rectangular in plan. The building has a flat roof with a concrete cornice and a hipped tower at the northeast corner. Two hipped bulkheads are also to the west near the north and south ends of the roof. The exterior is clad in composition siding, stucco, and permastone. Four storefronts are on the east façade. All have single or paired fully-glazed metal doors within metal storefront infill.

Building 5H is to the south of Building 5G. It is one story in height and rectangular in plan. The building has a flat roof with a concrete cornice and two front gabled volumes—one at the northeast corner and the other at the southwest corner. The exterior is clad in stucco and composition siding. One storefront is along the east façade and a second storefront is on the west façade. The entrances are at the gabled volumes and consist of paired fully-glazed metal doors within metal storefront infill. The windows all consist of fixed metal sashes.

Photograph 9. View of Building 5I and 5J, looking northwest (Google Street View, March 2019).

Building 5I is to the south of Building 5H (Photograph 9). It is one story in height and irregular in plan. The building has a flat roof and is clad in stucco, composition siding, and permastone. An arcade with a hipped roof is located along the north, east, and south façades, and a hipped tower is at the southeast corner. Two storefronts are along the south and west façades with paired fully-glazed metal doors and metal storefront infill.

Building 5J is to the south of Building 5H (Photograph 9). It is one story in height and irregular in plan. The building is similar in design to Building 5I except it has five storefronts instead of two.

Building 5K is at the southwest corner of the site. It is one story in height and rectangular in plan. The building has a flat roof with a concrete cornice and a hipped projecting volume at the northwest corner. The exterior is clad in stucco, composition siding, and permastone. The main entrance is within the hipped volume and consists of paired fully-glazed sliding metal doors within metal storefront infill.

Site 6 – Seal Beach Plaza

Site 6 is approximately seven acres at the northwest corner of Seal Beach Boulevard and Westminster Boulevard. Twelve commercial buildings are on the site surrounded by an asphalt-paved surface parking lot.

Building 6A is at the southwest corner of the Seal Beach Boulevard and St. Andrews Drive intersection. It was built between 1963 and 1972 (NETR 1963, 1972). The building is one story in height and irregular in plan. It has a flat roof with a concrete cornice and is primarily clad in stucco. A flat roofed arcade with permastone and stucco-clad columns extends across the south and east façades, and a tower topped by a flat awning is at the center of the south façade. The building has wood-frame storefront infill along the south and east façades. Entrances generally contain either fully-glazed metal doors or partially-glazed wood paneled doors.

Photograph 10. View of Building 6B, looking southwest (Google Street View, January 2023).

Building 6B is to the west of Building 6A (Photograph 10). It was constructed between 2000 and 2002 (NETR 2000, 2002). The building is one story in height and irregular in plan. It has a flat roof with a concrete cornice and is primarily clad in stucco. Storefronts are along the east and south façades separated by concrete piers. All have metal storefront infill and single fully-glazed metal doors. Permastone-clad pilasters ornament each corner of the building.

Building 6C is to the south of Building 6B. It was built between 1953 and 1963 (NETR 1953, 1963). The building is one story in height and rectangular in plan. It has a flat roof with a concrete cornice and is primarily clad in stucco. A flat-roofed arcade extends along the north and east façades supported by columns with stucco or permastone cladding. Storefronts are within the arcade and consist of single fully-glazed entry doors and metal storefront infill.

Photograph 11. View of Building 6D, looking west (Google Street View, January 2021).

Building 6D is to the south of Building 6C and shares a party wall (Photograph 11). It was also built between 1953 and 1963 (NETR 1953, 1963). The building is one story in height and rectangular in plan. It has a flat roof with wide overhanging eaves and brackets along the roofline. The exterior is primarily clad in stucco. Three arched opening are on the east façade separated by permastone-clad piers. The main entrance is in the center opening and consists of fully-glazed sliding metal doors within metal storefront infill. The southern opening is partially infilled with fixed metal windows and an ATM, and the northern opening is infilled with stucco-clad panels. Metal storefront infill is along the south façade.

Building 6E is to the south of Building 6D and separated by an alley. It was constructed between 1963 and 1972 (NETR 1963, 1972). The building is one story in height and rectangular in plan. It has a flat roof with a concrete cornice and is clad in stucco and brick. Two storefronts are on the east façade separated by a concrete pier. Each contains a single fully-glazed metal door and metal storefront infill. Fixed metal multi-light windows are on the north and south façades.

Building 6F is to the south of Building 6E and separated by an alley with a permastone-and-wood archway at the entrance. Building 6F was constructed between 1963 and 1972 (NETR 1963, 1972). The building is one story in height and rectangular in plan. It has a flat roof with a concrete cornice and is clad in stucco and brick. Two storefronts are on the east façade separated by a concrete pier. Each contains a single or paired fully-glazed metal doors and metal storefront infill. Fixed metal multi-light windows are on the north facade.

Photograph 12. View of Buildings 6E–6G, looking west (Google Street View, January 2021).

Building 6G is to the south of Building 6F and shares a party wall (Photograph 12). It was constructed between 1963 and 1972 (NETR 1963, 1972). The building is one story in height and rectangular in plan. It has a flat roof and is clad in stucco. At the east end is a tall parapet with a flat awning. The main entrance is recessed at the center of the east façade flanked by permastone-clad piers. It contains a single fully-glazed metal door. To either side of the main entrance are fixed metal windows above stucco-clad bulkheads. An awning tops the east façade's storefront.

Building 6H is to the south of Building 6G and shares a party wall. It was constructed between 1953 and 1963 (NETR 1953, 1963). The building is one story in height and rectangular in plan with a flat roof and stucco exterior cladding. It has three volumes on the east façade—each with a different design and configuration—connected by a continuous arcade. The northernmost volume is topped with a concrete cornice. It has two storefronts with paired fully-glazed metal doors within metal storefront infill. The center volume is topped with a flat awning. It has two arched moldings separated by an arcade column clad in permastone. An entrance at the center contains a single fully-glazed metal door, which is flanked by metal storefront infill. The southernmost volume has a slopping concrete cornice and a tower at the south end topped with a flat roof. The tower has brackets along the roofline and a partially infilled, arched opening with a flat awning. An entrance at the center contains a single fully-glazed metal door. It is flanked by metal storefront infill.

Building 6I is to the south of Building 6H and shares a party wall. It was built between 1953 and 1963 (NETR 1953, 1963). The building is one story in height and rectangular in plan with a flat roof and concrete cornice. At the center of the east façade, a parapet taller than the adjacent roofline is topped with a flat awning. Flanking the parapet are two storefronts within an arcade that has arched openings and permastone-clad columns. The north storefront has paired fully-glazed metal doors, while the south storefront has paired fully-glazed sliding metal doors. The windows are fixed metal sashes.

Building 6J is to the south of Building 6I and shares a party wall. It was built between 1963 and 1972 (NETR 1963, 1972). The building is one story in height and irregular in plan. It has a flat roof with a concrete coping. The main entrance on the east façade is topped with a cornice and flanked by permastone-clad columns. It contains deeply receded, paired fully-glazed metal doors with fixed metal windows to the south. Secondary entrances on the south façade are all single fully-glazed metal doors or metal slab doors. The windows are all fixed metal sashes.

Building 6K is to the east of Buildings 6E and 6F. It was constructed between 2004 and 2005 (NETR 2004, 2005). The building is one story in height and rectangular in plan. It has a flat roof with a concrete cornice and is clad in stucco and permastone. Flat-roofed towers with concrete cornices are at the northeast corner and center of the south façade. The main entrance is at the tower on the south façade and contains paired fully-glazed metal doors. Metal storefront infill is along the east end of the building on the east, north, and south façades.

Photograph 13. View of Building 6L, looking northwest (Google Street View, January 2023).

Building 6L is to the south of Building 6I. It was constructed between 1963 and 1972 in the New Formalist style (NETR 1963, 1972) (Photograph 13). The building is one story in height and square in plan. It has a combination hipped and flat roof. The flat portion is at the center surrounded by a concrete parapet. The hipped portion borders the parapet and is clad in red clay tile. Arched openings separated by concrete piers are along all façades. Within select openings are entrances consisting of paired or single fully-glazed metal doors within metal infill. The remaining openings are infilled with fixed metal windows atop metal bulkheads.

Site 7 – Seal Beach Center

Photograph 14. View of Site 7, looking northeast (Google Street View, January 2023).

Site 7 is approximately 9 acres on the north side of the Pacific Coast Highway between Balboa Drive and Bolsa Avenue (Photograph 14). Three commercial buildings with elements of the New Traditional Mediterranean style are on the site surrounded by an asphalt-paved surface parking lot. Building 7A is on the east site boundary and Building 7B is on the west site boundary. Both were built in 1966 and are one story in height and irregular in plan (NETR 1963, 1972; The Golden Rain Seal Beach Leisure World News 1966a). The buildings have flat roofs and stucco cladding. Building 7A has two hipped towers and two front gable volumes on the west façade with red clay tile roof cladding. Storefronts on the west façade consist of metal storefront infill with paired fully-glazed metal doors. Building 7B has one hipped tower, two front gable volumes, three hipped volumes, and a hipped arcade along the west and north façades—all with red clay tile roof cladding. Storefronts along the west and north façades have metal storefront infill with single or paired fully-glazed metal doors.

Building 8C is flanked by Building 7A and 7B and was built between 2005 and 2009 (NETR 2005, 2009). It is one story in height and irregular in plan. It has a flat roof with a hipped tower at the northeast corner and clay tile coping to the west and east. The exterior is clad in stucco. The main entrance is within the hipped tower and consists of paired fully-glazed metal doors. The windows are fixed metal sashes.

Site 8 – 99 Marina

Photograph 15. View of Site 8, looking southeast (Google Street View, September 2022).

Site 8 is approximately 4.3 acres northeast of the Marina Drive and First Street intersection (Photograph 15). The parcel is primarily vacant except for a concrete handball court at the west end that was built between 1972 and 1988 (NETR 1972, 1988). The handball court is surrounded by a maintained lawn and mature trees. A small asphalt-paved surface parking lot is to the south.

Main Street Specific Plan Area

Photograph 16. View of Main Street, looking north (Google Street View, January 2023).

The Main Street Specific Plan area is approximately 15 acres and encompasses commercial and mixed-use properties to the north and south of Main Street between Ocean Avenue and the Pacific Coast Highway (Photograph 16). The properties along Main Street are generally one-to-two stories in height and are clad with a variety of materials including brick, stucco, wood siding, and permastone. Select properties appear to have been constructed in the early twentieth century and are visible on the earliest available Sanborn map from 1931 and aerial photograph from 1938 (Sanborn Map Company 1931; UCSB 1938). For the remaining properties, construction dates range from the post-World War II period through the 2000s.

Photograph 17. View of the Orange County Fire Station 44, looking southwest (Google Street View, September 2022).

The Main Street Specific Plan also encompasses a parcel on the southwest corner of 8th Street and Central Avenue. The parcel is occupied by the Orange County Fire Station 44, built between 1963 and 1972 (NETR 1963, 1972) (Photograph 17). The building has a front gable roof with a flat-roofed wing to the north and east. The exterior is clad in stucco. The main entrance is on the north façade and consists of a single fully-glazed metal door. The windows are fixed metal sashes. Three garage openings on the east façade have roll-up metal doors.

3.2 Archaeological and Ethnographic Contexts

3.2.1 PRECONTACT ARCHAEOLOGY

The description of an overall regional chronology demarking the major stages of cultural evolution in the Southern California area has been attempted many times. Two principal chronologies, Wallace (1955; 1978) and Warren (1968), have been revised slightly (Koerper 1981; Koerper and Drover 1983). Southern

California cultural developments occur gradually and appear to have long-term stability; specifically applying a chronology is often difficult.

The researchers cited above divided the regional precontact chronology into four stages describing changing artifact assemblages and evolving ecological adaptations. The principal regional chronology proposed by Wallace (1955; revised in 1978) divides the precontact era by major cultural changes within general time periods. Wallace defined four cultural horizons, or periods, for Southern California. These include the Early Period, the Millingstone Period, the Intermediate Period, and the Late Prehistoric Period. These periods are summarized below.

The Early Period covers the period between approximately 10,000 and approximately 5500 BC, although recent data from the Farpoint Site (CA-LAN-451) in Malibu indicates a “Clovis Culture” occupation dating well before 10,000 years ago. Artifacts and cultural activities from Clovis and Early Period sites represent a predominantly hunting culture (Wallace 1955). Although Clovis and Early Period sites in Southern California are rare, Moratto (1984:76) lists several traits characteristic of sites occupied during this period. This list includes locations on the shorelines of ancient lakes and marshes. In coastal areas, such sites are located along stream channels or near estuaries. Although the bow and arrow do not exist, the atlatl and dart have been identified in assemblages from this period. An array of specialized cobble, core, flake, and blade implements are also known. In certain areas, the presence of extremely large, often fluted bifaces marks the Clovis and Early Period (Moratto 1984:81).

The Early Period is followed in time by the Millingstone Period. Sites from the Millingstone Period (post-5500 BC) typically contain ground stone artifacts such as manos, metates, and cogged stones, as well as soapstone objects. Wallace suggests that Millingstone Period cultures were generally hunter-gatherers who spent much time collecting and processing plants. When bifaces are found on Millingstone Period sites, they are commonly large and associated with the use of the atlatl.

Drover et al. (1983) suggest that early Millingstone Period sites represent refuse from mobile hunters and gatherers who used coastal resources during the winter and inland resources throughout the remainder of the year. Subsistence strategies included intensive hunting of small and large land mammals, sea mammals, and birds, as well as near-shore fishing and shellfish collecting. Elsewhere, small mammals were hunted and seeds were collected, as documented by the many millingstones found at Millingstone Period sites throughout the Southern California region.

By 3000 BC, coastal populations developed a greater reliance on marine resources. The remains of near-shore and deep-sea fish appear more often as refuse in middens. Much further inland, populations centered around pluvial lakes created by runoff from melting glaciers. In coastal areas, there was an increased use of the mortar and pestle, which marked a technological change in the manner seeds were processed. Instead of using just mano and metate, smaller seeds could be better contained in the basket-like mortar or hopper mortar (a basket affixed with asphaltum to a mortar base), and it is possible that the mortar and pestle indicate a diversification in seed collecting strategy. The use of the mortar and pestle marks Wallace’s Intermediate Period. Additional artifacts found predominantly within the Intermediate Period include discoidals and crescentics (crescent-shaped flaked stone artifacts).

The Late Prehistoric Period began approximately AD 500 (Bean and Smith 1978). During this period, artifact changes and new cultural practices occur. Smaller projectile points, representing bow-and-arrow hunting, appear on Late Prehistoric Period sites. This period is also marked by steatite effigies and by cremation as an interment practice. These artifacts and practices have been linked to a proposed Shoshonean (Takic) immigration from the Great Basin that ended at the coast, although there is a difference of opinion among experts regarding the timing of this proposed Takic migration. By AD 1000, smoking pipes and ceramic pottery occur, although ceramic smoking pipes may occur somewhat earlier, within the later portion of the Intermediate Period. Dating of sites to the Late Prehistoric Period also depends on the occurrence of other items, such as artifacts made of Salton Sea (Obsidian Buttes) obsidian. Sites within the region occasionally contain the vitreous lithic (glassy stone) called Grimes Canyon fused shale, which originates from Ventura County (Demcak 1981; Hall 1988).

3.2.2 ETHNOGRAPHY

Seal Beach is in the ancestral homeland of the Gabrielino (also known as Tongva). At the time of European contact, the Gabrielino inhabited the Los Angeles Basin and the southern Channel Islands of Santa Catalina, San Nicolas, and San Clemente (Bean and Smith 1978).

The Gabrielino are descended from a Takic-speaking, Uto-Aztecan group that likely entered the Los Angeles Basin as recently as 1,500 years before present (BP) from the southern Great Basin or interior California deserts. However, it is also possible that they migrated in successive waves over a longer period beginning around 4,000 years BP. It has been proposed that Uto-Aztecan speakers displaced the local occupants of the southern coast (Kroeber 1925:578–580; Moratto 1984:165), represented by the Hokan-speaking Diegueño to the south and the Chumash to the north. Much of the review of the Gabrielino presented here is based on William McCawley's book, *The First Angelinos* (1996).

The Gabrielino lived in an area that covered more than 1,500 square miles and included the watersheds of the Los Angeles River, San Gabriel River, Santa Ana River, and Rio Hondo, as well as the southern Channel Islands. There were at least 50 residential communities or villages, each with 50 to 150 individuals. Each community consisted of one or more lineages associated with a permanent territory. Each territory was represented by a permanent central settlement with associated hunting, fishing, gathering, and ritual areas. A typical settlement would have had a variety of structures used for daily living, recreation, and rituals. In larger communities, the layout was more intricate. A ritualistic or sacred enclosure was surrounded by the residences of the chief and community leaders, which were in turn surrounded by the smaller homes of the rest of the community. Sweathouses, cemeteries, and clearings for dancing and playing were also common at larger settlements (McCawley 1996:32–33).

Gabrielino subsistence consisted of terrestrial and marine resources. These included mule deer, pronghorn, rabbits, small rodents, freshwater and marine fish and shellfish, sea mammals, snakes, lizards, insects, quail, and mountain sheep. Botanical resources included native grass seeds, pine nuts, acorns, berries, and fresh greens and shoots. Food resources were managed by the chief, who oversaw food reserves, and families were known to store surplus resources to supplement their diet during times of resource stress. The Gabrielino were among the most materially wealthy groups in California due to a complex trade network between the Tongva and neighboring groups (McCawley 1996:141).

Like many other Native American groups, the settlement of Europeans in California brought conflict and disease as the Spanish colonized the west coast, decimating the Native American population. Today, the Gabrielino continue their traditions in Southern California, with approximately 2,000 individuals.

3.3 History of Seal Beach, 1857–2000

The coastal area that officially became Seal Beach in 1915 was known as Anaheim Landing during the mid- to late-nineteenth century. After the gold rush, the Anaheim Landing Company established Anaheim Landing in 1857 in a small bay at the mouth of Anaheim Creek. The landing served as a port for the Santa Ana Valley. Although the conditions at the port were often treacherous, it was active for approximately 15 years and rivaled the port of San Pedro in Los Angeles (Glasgow 2021; Kaiser 1995; The Port of Los Angeles 2024). Anaheim Landing's decline began in 1875 when the railroad arrived in Anaheim and provided a more efficient means to ship goods from the coast to inland settlements. Around this time, the beaches around Anaheim Landing became a popular destination for tourists seeking respite from hot summer days in the valley (Glasgow 2021). A tent city, with 25-square-foot lots, grew near the former Anaheim Landing site. In 1901, J.C. Ord, the community's only year-round resident, established a general store at the present-day location of Main Street and Electric Avenue (Kaiser 1995).

In 1903, after successfully developing Huntington Beach (then known as Pacific City), Phillip A. Stanton used his capital to form the Bayside Land Company, and with J.C. Ord and Isaac Lothian, developed Bay City just north of the former Anaheim Landing site (Deneau and Marsh 1980). Stanton was the city's major champion and heavily promoted Bay City. He ran an 18-month advertisement campaign in Long Beach and Los Angeles newspapers that depicted seals and encouraged readers to visit Seal Beach at Bay City to "Go and see the seals now. See 200 of them in the water at this famous beach!" (Grobaty 2013). The beach, however, was not famous; it was mostly unheard of (Grobaty 2013). Despite this, Bay City drew tourists and new residents alike, largely due to the Pacific Electric Railway Company, nicknamed the red car system, which arrived in Bay City in 1904. The red car system connected the burgeoning coastal community with Los Angeles, San Bernadino, Pasadena, and other major communities (Carpio 2015; Kindig 2011).

The 1906 San Francisco earthquake impeded the development of Bay City—as builders and capital were drawn north to aid in recovery—and Stanton struggled to establish a community. To draw more interest to Bay City, Stanton constructed a long wooden pier at the end of Main Street, the longest pier in the state at that time (Deneau and Marsh 1980; Grobaty 2013). In spite of its slow development, Bay City was officially incorporated on October 25, 1915, with the new name of Seal Beach. This name was derived from the many seals that lazed on the city's beach, and the name change was necessary as there was already an incorporated community named Bay City (City of Seal Beach 2024). Unlike nearby dry communities, Seal Beach was incorporated with legalized alcohol, and its availability was an early draw for visitors. Stanton constructed a seaside amusement park at the Seal Beach pier shortly after the city's incorporation. Coined Joy Zone, in 1917, the park featured a wooden roller coaster purchased from the city of San Francisco, an eatery and dance hall called the Jewel Café, and carnival games (Carpio 2015; Waldie 2015).

While Joy Zone drew fun-seekers to Seal Beach, the city's major appeal during the 1920s was vice. Seal Beach had readily available bootleg liquor during the prohibition era, reportedly thanks to an underground canal that facilitated its secretive transport. The city quickly gained a reputation for drinking, gambling, and prostitution (Carpio 2015). Gambling venues and speakeasies dotted Main Street, and gambling ships were anchored three miles off the coast, past federal jurisdiction. A shuttle at the end of the Seal Beach pier transported visitors to and from the ships. This illegal activity was allowed to flourish in the city as it had little law enforcement presence; it was at the westernmost corner of Orange County, and county law enforcement avoided the long trip (Carpio 2015; Waldie 2015).

Despite its lawless reputation, Seal Beach grew as a residential community during the 1920s. Between 1920 and 1930, the city's population swelled from 669 to 1,156, and by 1931, various businesses lined Main Street, and scattered dwellings dotted the remaining streets (California State Census Data Center 2020; Sanborn Map Company 1931). Businesses on Main Street (Site 13) included restaurants, a billiard hall, beauty shops, a tailor, the city post office, grocers, drug stores, a hotel, and an automotive repair store. A church, St. Anne's, was one block east of Main Street, and the City Hall, constructed in 1929 (extant and listed in the National Register in 1983), was at the corner of Central Avenue and 8th Street (Sanborn Map Company 1931; Thomas 1983). Seal Beach's growth can be attributed to the city's tourism, the red car service that provided easy transportation between it and major cities, and the development of the Pacific Coast Highway and a local airport during the 1920s (Masters 2012; Sun Newspapers 2010). Initially, the airport was known as Crawford Field, named after a Mr. Crawford, who built gliders there. By the 1930s, it was known as the Seal Beach airport (Sun Newspapers 2010).

During the 1930s, the development of Seal Beach stalled. The area remained a popular location for drinking and gambling, particularly among sailors stationed in Long Beach, but the Great Depression led to the closure of Joy Zone (Carpio 2015; Kaiser 1995). Its amenities, including the roller coaster and Jewel Café, fell into disrepair and were eventually dismantled (Kaiser 1995). The 1933 Long Beach earthquake also impacted the community. The 6.4 magnitude quake, the largest known earthquake to occur in the Los Angeles region at that time, struck on the evening of March 10th and damaged or destroyed many of the buildings in Seal Beach (Carpio 2015; Earthquake Hazards Program 2023). In 1939, the gambling ships off Seal Beach's coast were shut down (Waldie 2015). Collectively, the Depression, the 1933 earthquake, and the closure of offshore gambling establishments held the city's development at bay, and it retained its sin city characterization. Over the decade, Seal Beach's permanent resident population grew by only 397 (California State Census Data Center 2020).

World War II began a period of significant physical and social change in Seal Beach. In 1944, a Naval Ammunition and Net Depot was commissioned at Seal Beach, occupying a 5,000-acre site just southwest of the city's core (Reece 1944). The Navy had been attempting to establish an ammunitions storage base on the Pacific Coast since 1925 and selected Seal Beach for two reasons: its large expanse of open land and its proximity to Navy fleet concentrations in San Diego and Long Beach. Plans for the depot included the construction of 65 buildings, heavy barricades, powder and explosive magazines, 35 miles of paved roads, and 50 miles of railroads. The depot served as the central location for storing and loading ammunition onto Pacific Fleet ships and for servicing the anti-submarine nets used to protect fleet anchorages and bases worldwide (Navy Region Southwest 2024b; Reece 1944). The construction of the Naval Depot necessitated the dismantlement of the Seal Beach Airport; its administration building was

moved to its historic core, Old Town (Sun Newspapers 2010). The prior airport location was used as a storage area for anti-submarine buoys during World War II until the mid-1960s. The highly stacked lines of buoys were a landmark for those travelling on the Pacific Coast Highway and Bay Boulevard (present-day Seal Beach Boulevard) (Dobkins 2019b).

The influx of new residents during the war, chiefly from the Navy Depot's workforce, resulted in a 129 percent increase in Seal Beach's population between 1940 and 1950 (California State Census Data Center 2020). This growing population sought to dispel the city's long-held ill reputation and create a more family-oriented community. A group of citizens formed the Good Government Group and worked to "run off the bad elements of the city," namely, gambling institutions (Kaiser 1995). The group's largest target was The Airport Club, a 24-hour gambling and poker club that generated an estimated million dollars in revenue annually. In 1952, city residents narrowly voted to revoke an ordinance that allowed the club to operate. The following year, after numerous elections and recalls, Seal Beach residents voted 848 to 811 to ban gambling in the city entirely (Dobkins 2019a; Kaiser 1995).

Along with eliminating gambling, a series of residential and commercial developments in the post-World War II period began the transformation of Seal Beach from a city known as "wild" to a middle-class seaside community (Carpio 2015). During the 1960s and 1970s, the city expanded from Old Town historic core to include Leisure World Seal Beach and the Marina Hill (also known as the Hill), College Park West, and College Park East subdivisions (Kaiser 1995). Ross Cortese, a successful developer in Downey and Anaheim, established Leisure World Seal Beach, which would come to represent a third of Seal Beach's population. Before Leisure World, Cortese developed the Rossmoor Subdivision in 1957, adjacent to the northwest corner of the Naval Ammunition and Net Depot and just beyond the boundaries of Seal Beach. Rossmoor, with 3,500 homes, was the largest development in Orange County and included schools, a medical complex, and shopping centers (Kendrick 2004). One of the shopping centers, the Rossmoor Business Center (present-day The Shops at Rossmoor, Site 5), cost $8 Million to construct and included major stores such as an S.H. Kress and a Food Giant Market (The Daily News 1959; The Los Angeles Times 1961). In 1965, the Rossmoor Business Center and adjacent vacant land were annexed by Seal Beach despite strong opposition from the Rossmoor Homeowners Association (Kendrick 2004).

Although outside of the boundaries of Seal Beach, Rossmoor laid the groundwork for Cortese's success at Leisure World. After Rossmoor, Cortese sought another site to develop a community with amenities and settled on a 541-acre site in Rancho Los Alamitos, immediately south of Rossmoor. After purchasing the land for $10.82 million, Cortese designed a retirement community composed of clustered apartment buildings designed specifically for residents 52 years and older. Using research he had funded through the Gerontology program at the University of Southern California, Cortese considered the unique environment, social and recreational activities, and health and medical requirements of the aging. The proposed one- and two-bedroom apartment units contained wide hallways, raised electrical outlets, grab bars, and other amenities for aging in place (Baker 2009; Seal Beach Leisure World Historical Society & Museum 2021). Cortese took his unique planned community to the Federal Housing Administration (FHA), seeking their backing on mortgages. To secure FHA mortgages for Leisure World, Cortese had to establish two separate non-profit companies – the Golden Rain Foundation of Laguna Hills to sponsor, merchandise, administer, and manage Leisure World, and the Leisure World Foundation to own or act as

trustee of the assets of Leisure World – and agree to annex the development to Seal Beach (Baker 2009; Leisure World Seal Beach 2024).

In 1962, the first residents of Leisure World Seal Beach moved in, and by 1964, all original 6,608 planned units had been purchased. Like Rossmoor, Leisure World included an array of amenities and conveniences. It featured a manned security gate and on-site medical services with a pharmacy, laboratory, 26 nurses, and 10 physicians; when using on-site medical care, the Golden Rain Foundation covered a portion of resident's costs. Leisure World also touted a 2,500-seat amphitheater, art and ceramic studios, pool and billiards rooms, woodworking shops, clubhouses, separate therapy pools and swimming pools, and a variety of yard games. It featured a shopping center, the Leisure World Shopping Center (present-day Seal Beach Plaza, Site 7) that housed a Golden Rain Foundation office, pediatrist and optometrist offices, a United California Bank, and a 15,000-square-foot Manning's Restaurant with a cafeteria, coffee shop, and bar (Rossmoor Home 2024; The Golden Rain Seal Beach Leisure World News 1963, 1964a, 1964b, 1964c). Later, in the 1980s, the Golden Rain Foundation purchased a 5.5-acre lot adjacent to Leisure World Seal Beach to use for storing and servicing recreational vehicles and other non-conforming vehicles that belonged to residents (Site 2) (Seal Beach Leisure World Historical Society & Museum 2021).

In 1966, another large development was constructed next to Rossmoor. This development was the Old Ranch Country Club, located immediately west of Rossmoor between it and the College Park Subdivision, which was developed simultaneously (Long Beach Real Estate 2024). Preston B. Hotchkis, the president of the Bixby Ranch Company, developed the Old Ranch Country Club (Site 10). Plans for the 125-acre, 18-hole golf course designed by noted golf course architect Theodore Robinson included 6,400 yards of fairways, newly planted trees, and six lakes. The 2,800-square-foot country club was constructed of rough-sawn cedar to reflect early California heritage, an homage to Rancho Los Alamitos (Independent 1966; Ives 1967). When the club officially opened in March of 1967, its maximum private membership, 450, was filled (Ives 1967).

During the 1960s and 1970s, as the previously undeveloped portions of Seal Beach were platted and neighborhoods emerged, Old Town remained downtrodden in comparison. Storefronts were often boarded, and dive bars were still clustered near the pier (Kaiser 1995; Waldie 2015). The western portion of Old Town, adjacent to the San Gabriel River, was mostly industrial in the 1960s and included a sewage disposal plant and oil separating facility (NETR 1967). However, Old Town and its immediately adjacent neighborhood, the Hill, were not void of development. In 1966, the Seal Beach Shopping Center (Site 8) was constructed across the Pacific Coast Highway from Main Street in the Hill neighborhood. The plaza's opening in July 1966 was celebrated with three days of festivities, featuring a ribbon-cutting, live music, a play, and an appearance by Nino the Clown. The center had 23 stores, including an art supply store, a women's apparel store, a dry cleaner, and a Tastee-Freez ice cream shop (The Golden Rain Seal Beach Leisure World News 1966a). Later that year, in December, a Volger's Bay Liquor Market (Site 1) opened on the corner of the Pacific Coast Highway and Bay Boulevard (present-day Seal Beach Boulevard) in Old Town. The store advertised its beers from around the world and its "complete gourmet foods" (The Golden Rain Seal Beach Leisure World News 1966b).

Seal Beach also made several civic improvements during the 1960s. Approximately 55 percent of Seal Beach's potable water system was installed during the decade. The system included two booster pump stations integral to maintaining the city's water pressure: one constructed in 1963 on city property bounded by Naval-owned land (Site 12), and one constructed in 1969 adjacent to the northeast corner of Leisure World (AKM Consulting Engineers 2012). A new fire station (Site 13) was built in Old Town (ca. 1967), on the corner of Central Avenue and Eighth Street, across from the historic City Hall (NETR 1967). Two years later, Seal Beach replaced its original City Hall with a newer, larger building; however, the city retained the original City Hall and the two buildings are connected (Thomas 1983).

The Naval Ammunition and Net Depot at Seal Beach also experienced significant change during the 1960s and 1970s. In 1962, the depot was renamed the Seal Beach Naval Weapons Station to reflect a new emphasis on missiles and weapons systems at the site (Anaheim Bulletin 1962). Under this new direction, the station evolved into the "Navy's primary West Coast ordnance storage, loading, and maintenance installation" (Navy Region Southwest 2024b). In 1969, a 920-acre salt marsh and upland habitat within the naval station was declared a Navy Preserve and recognized as one of the last remaining undeveloped areas in coastal southern California. In 1972, President Richard Nixon formally established the Seal Beach National Wildlife Refuge, which is currently managed jointly by the Department of the Navy and the United States Fish and Wildlife Service (Navy Region Southwest 2024a).

The numerous residential, commercial, and civic developments in Seal Beach between 1960 and 1970 resulted in a dramatic population change. By 1970, the population reached 24,441, a 250 percent increase (California State Census Data Center 2020). Thirty-seven percent, approximately 9,000 individuals, resided in Leisure World Seal Beach (Baker 2009). The city's population has changed little since 1970, with just 801 more residents as of 2010 (California State Census Data Center 2020). Despite this stagnant population, Seal Beach continued progressing through the modern era. The city evolved into a center for aerospace technology during the 1970s, thanks to a Rockwell International Space Division Facility adjacent to the Seal Beach Naval Weapons Station. In 1977, Rockwell International built and demonstrated the first functioning Global Positioning Satellite, also known as Navstar GPS. The Rockwell facility in Seal Beach produced Navstars and rockets (Pazeian and Young 2018; Rockwell International 1975). Today, the former Rockwell Space Division Facility is owned by Boeing (Pazeian and Young 2018).

As Seal Beach approached the twenty-first century, the city had become a densely developed community; the only evident open natural space was the Seal Beach National Wildlife Refuge. One of the city's last pieces of open land, harkening to the earliest days of Seal Beach's settlement, was developed in 1998 as the Old Ranch Town Center (Site 6), a shopping plaza north of the Old Ranch Country Club. The 25-acre parcel represented one of the last portions of land owned by the Bixby Ranch Company, which was founded in 1896 and had owned considerable land in Seal Beach since (Bixby Land Company 2024; The Golden Rain Seal Beach Leisure World News 1998). Residents of College Park East overwhelmingly opposed the sale, and it was lamented in the local newspaper with the headline "It's Over!—Bixby's Holdings are Zoned" (The Golden Rain Seal Beach Leisure World News 1998).

4 Research and Methods

4.1 CHRIS Records Search

A records search of the CHRIS was completed by Stantec at the SCCIC on January 25, February 1, and February 8, 2024. The purpose of this search was to identify previously recorded cultural resources in the Project area and vicinity, including those that are listed in national, state, or local historical registers and whether or not the Project area contained resources that have been previously identified or evaluated as potential historical resources for purposes of CEQA. All recorded historic and precontact cultural resources situated within a 0.25-mile radius of the Housing Opportunity Sites and Main Street Program area were reviewed. Sources consulted during the search include:

- NRHP,
- CRHR,
- California Inventory of Historic Resources (CHRI),
- California Historical Landmarks (CHL) list,
- California Points of Historical Interest (CPHI) list, and
- California OHP records, including California Department of Parks and Recreation 523 (DPR 523) cultural resource records.

Three previously recorded cultural resources are within the Housing Opportunity Sites and Main Street Program area, all of which consist of precontact Native American resources in the vicinity of the San Gabriel River. These cultural resources are listed in Table 3 and are described below.

Table 3. Previously Recorded Cultural Resources in Project Area

Primary Number	Description	CRHR/NRHP Status
30-000143	Precontact habitation site with midden, artifacts, and human remains	Not Evaluated
30-000264	Precontact site with shell, ground stone, and human remains	Not Evaluated
30-001546	Precontact shell deposit	Not Evaluated

4.1.1 P-30-000143 (CA-ORA-143)

This precontact archaeological site was originally recorded in 1964. At that time, P-30-000143 was described as “midden dirt” with a steatite bowl and effigy; flaked stone debris, including obsidian, chert, basalt, and quartz; projectile points; drills; ground stone, including manos, metates, and mortars; and shellfish. A record prepared the following year in 1965 also noted the presence of human remains. The most current record of P-30-000143, prepared in 1997, described the deposit as “archaeological shell

midden consisting of…dense accumulations of marine mollusk shell, including scallop, clam and oyster. Artifacts such as lithic debitage are rare, but present, and there is an occasional piece of fish bone." The 1997 site record noted previous disturbances from construction. A formal determination of this resource's CRHR/NRHP eligibility has not been made.

4.1.2 P-30-000264 (CA-ORA-264)

This precontact archaeological site was recorded in 1969 as containing dietary shell, ground stone, and human skeletal remains. A formal determination of this resource's CRHR/NRHP eligibility has not been made.

4.1.3 P-30-001546

This precontact archaeological site was recorded in 2000 as a "small prehistoric shell deposit" that possibly functioned as a base camp for collecting, processing, and consuming estuarine resources. The site was observed in a plowed field adjacent to a developed area. A formal determination of this resource's CRHR/NRHP eligibility has not been made.

4.2 California Built Environment Resource Directory

Stantec consulted the California Built Environment Resource Directory (BERD) to determine if the Housing Opportunity Sites and Main Street Program contains any resources listed in or determined eligible for the NRHP or CRHR, designated as California Registered Historical Landmarks or California Points of Historical Interest, or evaluated in historic resource surveys and other planning activities. One resource listed in the BERD is within the Housing Opportunity Sites and Main Street Program and two resources are immediately adjacent. Of the three resources previously recorded in BERD, the Naval Weapons Station was previously determined eligible for the NRHP and is a historical resource as defined by CEQA.

Table 4. Previously Recorded BERD Resources

Name	Address	OHP Status Code(s)	Within Housing Opportunity Site/Main Street Program?
Seal Beach Red Car	Electric Avenue	7P	No—adjacent
Naval Weapons Station	800 Seal Beach Blvd	2S2	No—adjacent
Seal Beach Plaza	13962 Seal Beach Blvd	6Y	Yes

4.3 City of Seal Beach Historic Resources

Stantec consulted with the City of Seal Beach to determine if the Housing Opportunity Sites and Main Street Program contains any locally designated resources. One resource within the Main Street Program, the Bay Theater, is designated as a City historic resource under Resolution No. 6685. The Bay Theater is a historical resource as defined by CEQA.

Table 5. City Historic Resources

Name	Address	OHP Status Code(s)	Within Housing Opportunity Site/Main Street Program?
Bay Theater	340 Main Street	5S1	Yes

4.4 NAHC Sacred Lands File and Tribal Outreach

On January 18, 2024, Stantec contacted the NAHC in West Sacramento to conduct a Sacred Lands File (SLF) search of the Project area. The NAHC is the state's official repository of sacred lands, sites, and resources recognized by California Native American tribes.

Andrew Green, NAHC Cultural Resources Analyst, responded via email to Stantec's search request on February 14, 2024, that a review of the SLF was "positive" and recommended that the Gabrieleno/Tongva San Gabriel Band of Mission Indians and the Juaneno Band of Mission Indians Acjachemen Nation – Belardes be contacted for further information. The NAHC provided Stantec with a list of local tribes that may have additional information regarding tribal cultural resources in the Project and vicinity.

The Project is subject to tribal consultation requirements under CEQA (i.e., AB 52), and the City is in the process of notifying local tribes of their opportunity to participate in government-to-government consultation regarding the Project's potential impacts to tribal cultural resources. The results of this outreach and consultation are ongoing and will be described in the Project's EIR. Mitigation measures will be proposed in that document, as appropriate.

4.5 Additional Research

Stantec conducted additional research on the history of the Housing Opportunity Sites, Main Street Program and the surrounding region. Sources included previous cultural survey reports, historic-period newspapers, U.S. Federal Decennial Population Census records, and secondary online reference materials. Historical maps and aerial images from the Sanborn Map Company, Nationwide Environmental Title Research (NETR), U.S. Geological Services (USGS), and University of California, Santa Barbara (UCSB) were also consulted. These included:

- 1931 Sanborn map
- 1938 UCSB aerial photograph
- 1947 UCSB aerial photograph
- 1952 NETR aerial photograph
- 1953 NETR aerial photograph
- 1963 NETR aerial photograph
- 1997 NETR aerial photograph
- 1998 NETR aerial photograph
- 1999 NETR aerial photograph
- 2000 NETR aerial photograph
- 2002 NETR aerial photograph
- 2003 NETR aerial photograph

- 1967 USGS topographic map
- 1972 NETR aerial photograph
- 1988 NETR aerial photograph
- 1991 NETR aerial photograph
- 1992 NETR aerial photograph
- 1993 NETR aerial photograph
- 1994 NETR aerial photograph
- 1995 NETR aerial photograph
- 1996 NETR aerial photograph
- 2004 NETR aerial photograph
- 2005 NETR aerial photograph
- 2009 NETR aerial photograph
- 2010 NETR aerial photograph
- 2012 NETR aerial photograph
- 2014 NETR aerial photograph
- 2016 NETR aerial photograph
- 2019 NETR aerial photograph
- 2020 NETR aerial photograph

5 Analysis of Project Impacts on Cultural Resources

5.1 Impacts to Built-Environment Historical Resources

The threshold for determining significant impacts to historical resources in the CEQA Guidelines is whether the proposed project would cause a substantial adverse change, which is defined as demolition, destruction, relocation, or alteration of the resource or its immediate vicinity such that the historical resource is materially impaired. A historical resource would be materially impaired if a project alters in an adverse manner those physical characteristics that convey its significance and that justify its eligibility for inclusion in the NRHP, CRHR, and/or local register (14 CCR §15064.5[b][2]).

CEQA defines historical resources as (1) resources eligible for or listed in the CRHR and/or NRHP; (2) resources listed in a local register; or (3) resources identified as historically significant in a historic resources survey. Historical resources are also typically at least 50 years old because of NPS and OHP minimum-age requirements for NRHP and CRHR eligibility. Therefore, buildings, structures, sites, objects, and districts that meet this age threshold and have not been previously evaluated generally have the potential to be identified as historical resources unless a detailed evaluation is prepared demonstrating that it is not eligible for national, state, and/or local listing. For the purposes of evaluating a resource's eligibility as a historical resource, a minimum-age threshold of 45 years is commonly recommended to account for the delay between resource identification and a CEQA lead agency's approval of a project.

One historical resource, the Bay Theater, is within the Main Street Program area. One historical resource, the Naval Weapons Station, is located adjacent to Housing Opportunity Sites 1, 3, and 6. In addition, previously unidentified resources 45 years old or older have the potential to be historical resources as defined by CEQA due to their age. Sixteen buildings are potentially 45 years old or older on Housing Opportunity Sites 1–2, 4, and 6–8. An unknown number of buildings within the Main Street Program are 45 years old or older.

The Project would have no direct impacts on historical resources. It involves the establishment of a new zoning designation and rezoning of sites within the eight Housing Opportunity Sites and Main Street Program area. This action would not directly cause a substantial adverse change to historical resources due to demolition, destruction, relocation, or alteration resulting in a loss of integrity.

The Project would potentially have indirect impacts on historical resources as it may facilitate future development activities that would directly or indirectly cause a substantial adverse change to historical resources. Two identified historical resources are within or adjacent to the Project area, as well as an unknown number of previously unevaluated resources 45 years old or older that have the potential to be historical resources. It is possible that future development activities may demolish or significantly alter these known and unknown historical resources or introduce a new visual element that alters a resource's setting. As such, indirect impacts to historical resources would be potentially significant.

Implementation of Mitigation Measure A, discussed below, would reduce impacts to historical resources. This would be accomplished by requiring a process for the identification of historical resources and the analysis of potential impacts on historical resources resulting from future development activities. Therefore, with the incorporation of Mitigation Measure A, the Project impacts would be **less than significant**.

The Project, in conjunction with other development in the City, has the potential to cumulatively impact historical resources. Unlike direct and indirect impacts, which tend to be site-specific, cumulative impacts would occur if the Project and related projects cumulatively affect historical resources. Potential cumulative impacts include impacts to historical resources in the immediate vicinity; changes within the same historic district or to the same historical resource; or involve resources that are examples of the same property type as those within the Project area. However, unless exempt, each cumulative project would require separate discretionary approval and evaluation under CEQA, which would address potential impacts to historical resources and identify necessary mitigation measures, where appropriate. Therefore, with the implementation of mitigation and compliance with regulatory requirements, the Project's contribution to cumulatively considerable impacts on historical resources would be **less than significant**.

To mitigate significant impacts to historical resources, the following Mitigation Measures are recommended:

A. Development Review Process for Historical Resources

Prior to approval of discretionary projects at any of the eight Housing Opportunity Sites or within the Main Street Program area, City staff shall determine whether the project applicant should conduct further study to assess the project's potential impacts on historical resources. Further study is required if the project is located on the same parcel or within 100 feet of a known historical resource. Further study is also required if the project is located on the same parcel as a building, structure, or object 45 years old or older from the date the discretionary permit application was filed. If further study is necessary, the City shall require the project applicant to retain a qualified architectural historian who meets the Secretary of the Interior's Professional Qualification Standards in architectural history. The qualified consultant shall prepare a Historical Resource Evaluation Report (HRER). The HRER should involve a CHRIS and BERD records search and preparation of a historic context. If a building, structure, or object on the parcel is 45 years old or older and has not been previously identified as a historical resource, the consultant should prepare an evaluation for NRHP, CRHR, and local landmark eligibility per NPS, OHP, and City guidelines. All evaluated resources should be documented on DPR 523 Forms. The qualified consultant should analyze potential project impacts and provide recommendations for avoiding or otherwise mitigating potentially significant impacts to historical resources, which shall be enforced as conditions of approval for the project.

5.2 Impacts to Archaeological Resources

CEQA requires a lead agency to determine if an archaeological cultural resource meets the definition of a historical resource, a unique archaeological resource, or neither (CEQA Guidelines Section 15064.5(c)). Prior to considering potential impacts, the lead agency must determine whether an archaeological cultural resource meets the definition of a historical resource in CEQA Guidelines Section 15064.5(c)(1). If the archaeological cultural resource meets the definition of a historical resource, then it is treated like any other type of historical resource in accordance with CEQA Guidelines Section 15126.4. If the archaeological cultural resource does not meet the definition of a historical resource, then the lead agency determines if it meets the definition of a unique archaeological resource as defined in CEQA Section 21083.2(g). In practice, however, most archaeological sites that meet the definition of a unique archaeological resource will also meet the definition of a historical resource. Should the archaeological cultural resource meet the definition of a unique archaeological resource, then it must be treated in accordance with CEQA Section 21083.2. If the archaeological cultural resource does not meet the definition of a historical resource or a unique archaeological resource, then effects to the resource are not considered significant effects on the environment (CEQA Guidelines Section 15064.5(c)(4)).

As discussed in Section 4.1 of this report, three archaeological cultural resources have been identified at, or in the vicinity of, one of the Housing Opportunity Sites: P-30-000143, P-30-000264, and P-30-001546. The status of these three archaeological cultural resources is unknown at this time, including their integrity (i.e., whether these sites contain intact subsurface archaeological deposits) and their eligibility for listing in either the CRHR or NRHP. At least two of these sites have reported Native American human remains, and regardless of these sites' statuses as historical resources or unique archaeological resources under CEQA, the presence of such remains triggers protections under sections of the California PRC and HSC, as described in Sections 2.5 and 2.6 of this report. Additionally, other precontact and historic-period archaeological cultural resources have been identified in Seal Beach, and the potential to unearth buried archaeological deposits during development cannot be ruled out and should be assessed on a project and site-specific basis.

The Project, therefore, may have direct impacts on known archaeological cultural resources (including those that qualify as "historical resources" and "unique archaeological resources" under CEQA) as well as previously unrecorded cultural resources that could be unearthed during ground disturbance. Future development facilitated by the proposed Project could cause a substantial adverse change to archaeological cultural resources due to their demolition, destruction, relocation, or alteration resulting in a loss of integrity. As such, impacts to archaeological cultural resources would be potentially significant.

Implementation of Mitigation Measures B–C discussed below would reduce the significant impacts to archaeological cultural resources, specifically those that qualify as historical resources and unique archaeological resources under CEQA. With implementation of the recommended mitigation measures, impacts would be reduced to **less than significant**. The Project, in conjunction with other development in the City, has the potential to cumulatively impact archaeological cultural resources and human remains. Development within the City also has the potential to adversely affect archaeological cultural resources and human remains through their destruction or disturbance. Before mitigation, development within the Housing Opportunity Sites, as well as other local recent and current developments, have the potential to

cause adverse cumulative impacts to archaeological cultural resources due to their destruction or loss of historical integrity. However, unless exempt, each cumulative project would require separate discretionary approval and evaluation under CEQA, which would address potential archaeological impacts and identify necessary mitigation measures, where appropriate. Therefore, the Project would not result in a cumulatively considerable impact related to archaeological resources and cumulative impacts would be **less than significant**.

The residential component of the ORCC Specific Plan Project is located in an area of high sensitivity for precontact Native American resources. Additional study of this future development is recommended to fully assess future project impacts on historical resources, archaeological resources, and tribal cultural resources. Specific impact findings associated with the development of the ORCC Specific Plan Project are being evaluated separately by the City in a standalone EIR.

To mitigate significant impacts to archaeological cultural resources, specifically those that qualify as historical resources and unique archaeological resources under CEQA, the following mitigation measures are recommended:

B. Development Review Process for Archaeological Resources

Prior to approval of discretionary projects that include ground-disturbing activities, City staff shall conduct a records search at the South Central Coastal Information Center to review the current data on file for the project location. If it is determined that known archaeological cultural resources are within a 0.25-mile radius of the project site, the City shall require the project applicant to retain a qualified archaeologist who meets the Secretary of the Interior's Professional Qualification Standards in Archeology to assess the project's potential impacts to archaeological cultural resources. Further study may include a survey of the project location; controlled excavation to determine the presence of subsurface archaeological deposits; a review of relevant literature, including historical maps and published archaeological and ethnographic sources; and consultation with local Native American tribes. The cultural resources professional shall provide recommendations for avoiding or otherwise mitigating potentially significant impacts to archaeological cultural resources and human remains, which shall be enforced as conditions of approval for the project. Implementation of this mitigation measure would reduce potentially significant impacts to historical resources and unique archaeological resources to less than significant.

C. Human Remains

The City shall use the development review process to identify human remains, including those interred outside of formal cemeteries, and follow the appropriate procedures outlined under HSC Section 7050.5 and PRC Section 5097.98. Should human remains be found on a project site, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains shall be disturbed until the Orange County Coroner is contacted and determines that no investigation of the cause of death is required. If an investigation is required, and the coroner determines the remains to be Native American, then: (1) the coroner would contact the NAHC within 24 hours; (2) the NAHC would identify the person or persons it believes

to be the MLD from the deceased Native American; (3) the MLD may make recommendations to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98. Implementation of this mitigation measure would likely reduce potentially significant impacts to human remains to less than significant.

6 Conclusions

The Project has the potential to have direct, indirect, and/or cumulative impacts on built-environment historical resources and archaeological cultural resources. Project impacts to built-environment historical resources may be potentially significant. Implementation of the recommended mitigation measures discussed in this report by the lead agency would reduce the impact to built-environment historical resources to a less than significant level. The Project impacts to built-environment historical resources would therefore be **less than significant** with the incorporation of mitigation. Project impacts to archaeological cultural resources and human remains may also be potentially significant, and mitigation is proposed to reduce this impact to **less than significant**.

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Appendix E
Paleontological Resources Technical Report

PALEONTOLOGICAL RESOURCES TECHNICAL REPORT FOR THE CITY OF SEAL BEACH HOUSING ELEMENT AND ZONING CODE UPDATES PROJECT, ORANGE COUNTY, CALIFORNIA

An analysis of existing data in support of CEQA review

October 25, 2024

Prepared for:
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Community Development Department
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Stantec Project Number:
2042665000

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Appendix A. Records Search Results from the Natural History Museum of Los Angeles County A-1

Executive Summary

Stantec Consulting Services Inc. (Stantec) conducted a paleontological resources assessment on behalf of the City of Seal Beach (the City) for the City's Housing Element and Zoning Code Updates Project (the Project) composed of eight separate sites totaling 83.45 acres throughout Seal Beach in Orange County, California. Proposed updates to the Housing Element include the identification of eight Housing Opportunity Sites and the Main Street Program, a modification of the existing Main Street Specific Plan to provide additional residential developments at currently unspecified locations.

This paleontological study was conducted in support of California Environmental Quality Act (CEQA) review of the Project, including the eight specific Housing Opportunity Sites and the Main Street Program area. The proposed Project is subject to CEQA requirements regarding the Project's potential impacts on paleontological resources, with the City serving as the lead agency for the Project. As part of CEQA compliance, a paleontological resources assessment was conducted to assess potential impacts of the proposed Project on paleontological resources.

This assessment consisted of an analysis of existing data including a museum records search from the Natural History Museum of Los Angeles County and a review of the most recent geologic mapping, relevant scientific literature, and the online collections of the University of California Museum of Paleontology. This research was used to assign paleontological potential rankings of the Society of Vertebrate Paleontology (2010) to the geologic units present in the Project area, either at the surface or in the subsurface.

The results of this study indicate that four geologic units are likely present in the Project area: beach and paralic estuarine deposits, which are assessed as having low paleontological potential; unit 2 of young alluvium which is assessed as having low-to-high paleontological potential, increasing with depth, and old shallow marine deposits on a wave-cut surface, which are assessed as having high paleontological potential. Additionally, older Pleistocene-aged marine formations with high paleontological potential such as the San Pedro Formation, Palos Verdes Sand, the Lomita Marl, and the Timms Point Silt may be present in the subsurface, underlying the other units. Should fossils with scientific importance be encountered during one of the resulting development projects from the updates to the Housing Element, the damage or destruction of the resources would constitute an indirect adverse impact of this Project.

In order to reduce such impacts to less than significant, Stantec recommends a qualified paleontologist meeting professional standards as defined by Murphey et al. (2019) be retained as the designated Project Paleontologist to review project-specific construction plans and develop a project-specific paleontological mitigation program. The mitigation program should include the following components:

- For each development the Project Paleontologist should develop and oversee the implementation of a Paleontological Monitoring and Mitigation Plan tailored to specific construction plans and geotechnical studies, should these be available, that identifies when or under what conditions paleontological monitoring should be implemented. The plan should include provisions for worker training, roles and qualifications of paleontology staff following those of Murphey et al. (2019),

depths and locations for monitoring, types of work to be monitored, monitoring procedures, requirements for final reporting of the results of the mitigation program, and fossil discovery protocols for work stoppage, assessment, and possible salvage and curation, in the event a fossil is found during construction.

- Fulltime paleontological monitoring is warranted when work occurs in the geologic units assessed as having high paleontological potential in this study: when over 5 foot in depth in unit 2 of the young alluvium, or at any depth in old shallow marine deposits on a wave-cut surface, the San Pedro Formation, the Paleo Verdes Sand, the Lomita Marl, and the Timms Point Silt. Work into previously disturbed sediments, beach deposits, paralic estuarine deposits, or the upper 5 feet unit 2 of the young alluvium does not require monitoring. After the initiation of the monitoring work, the Project Paleontologist may reduce the frequency or depths of monitoring should low paleontological potential sediments be identified in the monitoring area.
- The Project Paleontologist should develop a Worker's Environmental Awareness Program training that communicates requirements and procedures for the inadvertent discovery of fossils during construction, to be delivered by the paleontological monitor to the construction crew prior to the onset of ground disturbance.
- In the event that paleontological resources are encountered during construction activities, work should stop in a safe radius of the finds, usually 50 feet, while the paleontological monitor documents the find. If a monitor is not onsite at the time of discovery, such as for an inadvertent discovery in an area of low paleontological potential, work should stop until the Project Paleontologist can assess the find. The Project Paleontologist shall assess the find. Should the Project Paleontologist assess the find as scientifically important, the find shall be collected and curated in an accredited repository along with associated data such as photographs, GPS coordinates, lithological descriptions, and depth data, as well as curation fees.

Acronyms / Abbreviations

bgs	Below ground surface
CEQA	California Environmental Quality Act
City	City of Seal Beach
GIS	Geographic Information System
LACM	Natural History Museum of Los Angeles County
Ma	Million years ago
PRC	Public Resources Code
Project	Housing Element and Zoning Code Updates Project
RHD	Residential High Density
RHNA	Regional Housing Needs Assessment
Stantec	Stantec Consulting Services Inc.
SVP	Society of Vertebrate Paleontology
UCMP	University of California Museum of Paleontology

Glossary

Paleontological Monitor	An individual who has academic training (B.S., B.A., M.A., or M.S.) with an emphasis in paleontology or demonstrated equivalent experience (a minimum of two years of cumulative professional or nonprofessional work in laboratory preparation, curation, or field work related to paleontology, as well as documented self-taught knowledge of the discipline of paleontology). [Murphey et al. 2019]
Paleontological Monitoring	Observation of construction activities by a paleontological technician, under supervision of the Paleontological Principal Investigator. Monitoring may be fulltime (observation of the entire duration of a particular activity) or consist of a spot check (observation of a portion of the activity or of an area following the activity).
Paleontological Resource	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) [Society of Vertebrate Paleontology 2010]
Project Paleontologist	Someone with an advanced academic degree (M.A., M.S. or Ph.D.) with an emphasis in paleontology or demonstrated equivalent professional experience (e.g., minimum of 3 years [or 75 projects] of project experience with paleontological mitigation is considered equivalent to a graduate degree), in combination with 2 years (or 50 projects) of demonstrated professional experience and competency with paleontological resource mitigation projects at the level of field supervisor. [Murphey et al. 2019]

1 Introduction

Stantec Consulting Services Inc. (Stantec) conducted a paleontological resources assessment on behalf of the City of Seal Beach (the City) for the City's Housing Element and Zoning Code Updates Project (the Project) on eight separate sites totaling 83.45 acres of land throughout the City, in Orange County, California. This paleontological study was conducted in support of the City's Housing Elements Updates in compliance with state mandated requirements for local governments to identify adequate sites for housing to meet existing and projected housing needs for various income-levels in the community.

This paleontological study was conducted in support of California Environmental Quality Act (CEQA) review of the Project, including the eight specific Housing Opportunity Sites and the Main Street Program area. The proposed Project is subject to CEQA requirements regarding the Project's potential impacts on paleontological resources, with the City serving as the lead agency for the Project. As part of CEQA compliance, a paleontological resources assessment was conducted to assess potential impacts of the proposed Project and the resulting increase in development on paleontological resources.

1.1 Project Description

California State law requires each city and county to adopt a General Plan for its physical development. The City's most recent General Plan was adopted in December 2003. The Housing Element is one of seven State-mandated General Plan elements, which is required to be updated every eight years. The City is preparing the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. It is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle.

The Housing Element, which integrates and updates supporting socioeconomic, demographic, and household data, is specifically intended to accommodate the City's Regional Housing Needs Assessment (RHNA) allocation of 1,243 new dwelling units. The RHNA allocated regional housing needs by income-level among member jurisdictions. This assessment report evaluates the potentially significant, adverse, and beneficial impacts to paleontological resources that may result from the Project, which involves implementation of the Housing Element and Zoning Code Update, including establishment of the new zoning designation and rezoning of sites resulting from Project implementation which would result in increased densification of residential uses.

The Housing Element Update identifies Housing Opportunity Sites throughout the City that have the potential for providing additional housing to meet the City's RHNA allocation. The sites are broken into two categories: (a) underutilized sites that do not require zoning code changes and (b) sites where zoning modifications are proposed. The Housing Element Update identifies eight Housing Opportunity Sites, two of which are underutilized sites that do not require rezoning and the remaining six sites are proposed for zoning modifications. Out of the six Housing Opportunity Sites proposed for rezoning, five would be rezoned to Mixed Commercial/Residential High Density (RHD), a new zoning designation that is

proposed to be implemented. The remaining site would be rezoned to the City's existing RHD-33 zoning designation.

In addition to the Housing Opportunity Sites, the Housing Element Update includes a proposal of the Main Street Program which is analyzed in this report. The Housing Element Update's Main Street Program does not identify specific housing opportunity sites but would modify the existing Main Street Specific Plan to allow for residential units to be developed at select properties located within the Main Street Specific Plan area.

The assessment contained herein assumes the development of the eight Housing Opportunity Sites totaling approximately 83.45 acres (with a developable acreage of 35.05 acres) at 100 percent of the maximum allowable density resulting in the potential for 1,491 new dwelling units to be developed within the City. Additionally, though 100 percent buildout under the Main Street Program would allow for development of up to 163 new dwelling units, it is unlikely that 100 percent buildout within the Main Street Program area would occur and therefore, the assessment contained herein assumes the development under the Main Street Program at 70 precent of maximum buildout resulting in the potential for 115 new dwelling units to be developed within the Main Street Program area.

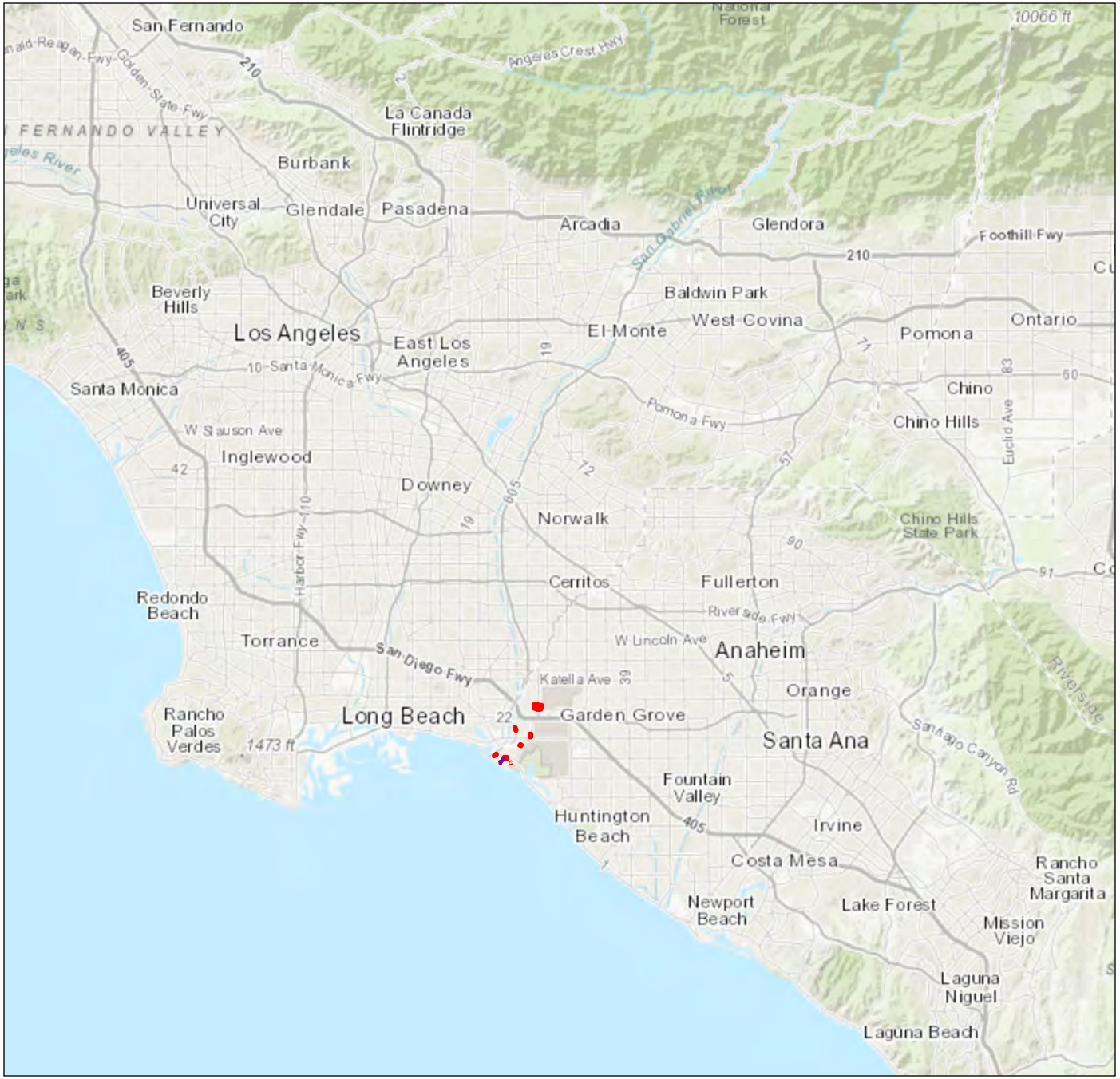
1.2 Project Location

The City is located at the northwestern edge of Orange County, California. The City borders the City of Long Beach and Los Angeles County to the northwest, the Orange County Cities of Los Alamitos to the north, Westminster to the east, Huntington Beach to the southeast, and the Pacific Ocean to the southwest (Figure 1). The Project area is currently comprised of eight Housing Opportunity Sites dispersed throughout the City and totaling 83.45 acres (Figure 2). However, the majority of the Housing Opportunity Sites would only allow for development within portions of the overall Housing Opportunity Site due to existing development and therefore, the total developable acres for the Housing Opportunity Sites is 35.05 acres. Additionally, the Project area includes the Main Street Program area. The Main Street Program falls within the boundaries of the existing Main Street Specific Plan area located within the City. Development potential for the Main Street Program is not based on potential developable acreage but rather the number of units that could be developed at select locations within the Main Street Program area.

Specifically, the Project area is located in portions of Section 31, Township 04 South, Range 11 West and Sections 1, 11, 12, 13, and 14, Township 04 South, Range 12 West, as depicted on the Los Alamitos and Seal Beach, California United States Geological Survey 7.5-minute series topographic quadrangles.

1.3 Paleontological Resources

Fossils are any evidence of ancient life, defined by the Society of Vertebrate Paleontology (SVP) (2010) as being over 5,000 years in age, or middle Holocene. While CEQA does not define a significance threshold for paleontological resources, the standards of the SVP (2010) are often used in the absence of a legal definition. The SVP defines scientifically important fossils as:



Stantec

Sites

Main Street Program

N

0 3.5 7 Miles

(At original document size of 8.5x11)
1:500,000

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Data Sources: City of Seal Beach 2024.

3. Background: World Topographic Map: Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS
World Ocean Base: Esri, GEBCO, Garmin, NaturalVue
World Ocean Reference: Esri, GEBCO, Garmin, NGS

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-22
IR by TJ on 2024-10-22

Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
1

Title
Project Vicinity

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-22 By: kdelapena

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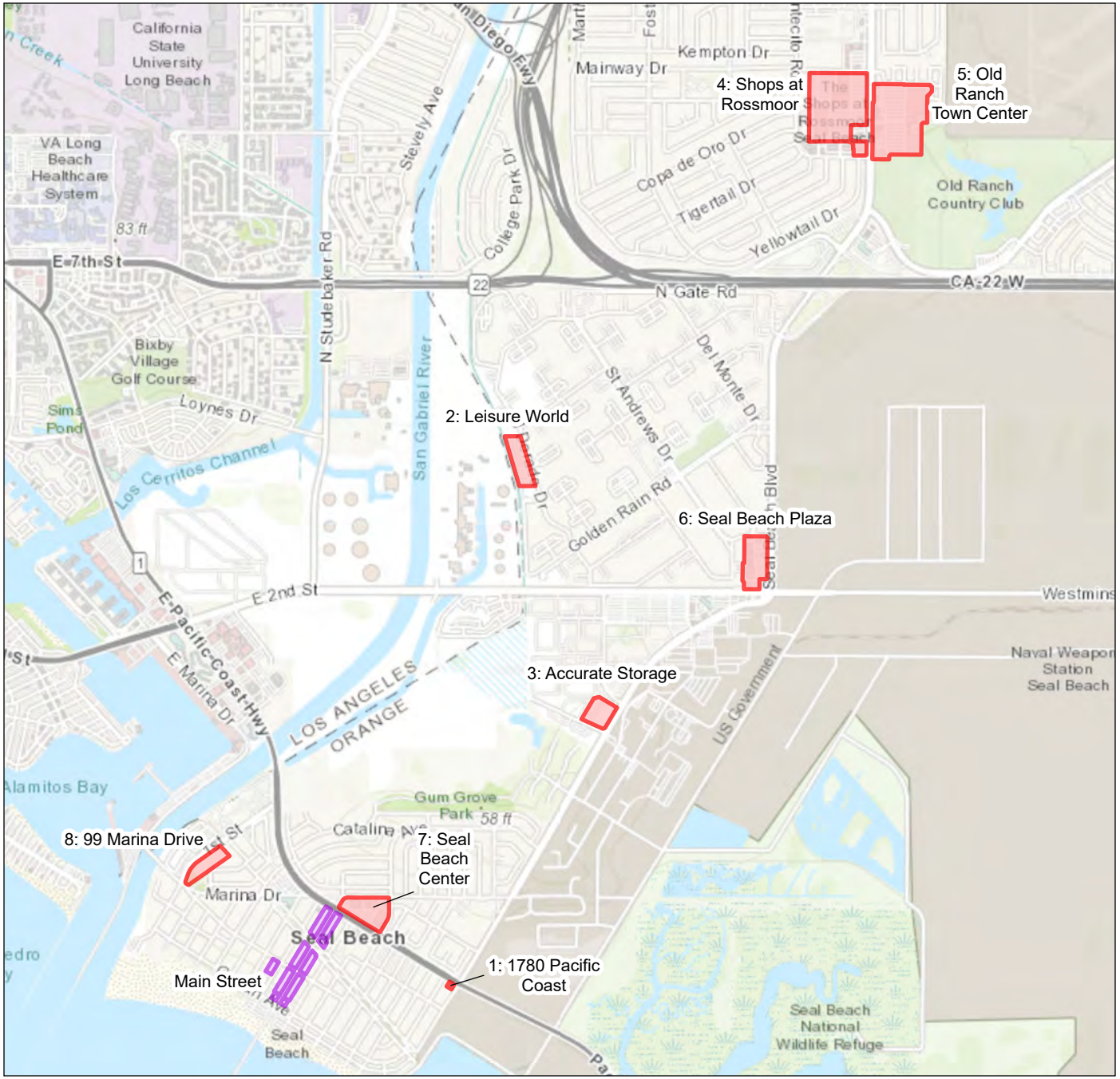

Stantec

Sites

Main Street Program

N

0 0.2 0.4 Miles

(At original document size of 8.5x11)
1:32,000

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

2. Data Sources: City of Seal Beach 2024.

3. Background: World Topographic Map: City of Long Beach, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA
World Ocean Base: Esri, GEBCO, Garmin, NaturalVue

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-22
IR by TJ on 2024-10-22

Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
2

Title
Project Area

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-22 By: kdelapena

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> 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). [SVP 2010: 11].

Using this definition, the concept of scientific importance is included in the definition of paleontological resources; thus, not all fossils are considered to be paleontological resources. The threshold for scientific importance varies with factors such as geologic unit, geographic area, the current state of scientific research, and may also vary between different agencies (Murphey et al. 2019). Paleontological studies have developed criteria for the assessment of scientific importance of fossil discoveries (e.g., Murphey et al. 2019, Scott and Springer 2003). In general, these studies assess fossils as scientifically important if one or more of the following criteria apply:

- The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct.
- 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, through biochronology or biostratigraphy and the correlation with isotopic dating.
- The fossils provide ecological data, such as the development of biological communities, the interaction between paleobotanical and paleozoological biotas, or the biogeography of lineages.
- The fossils demonstrate unusual or spectacular circumstances in the history of life.
- The fossils provide information on the preservational pathways of paleontological resources, including taphonomy, diagenesis, or preservational biases in the fossil record.
- 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.
- The fossils inform our understanding of anthropogenic affects to global environments or climate.

2.0 Regulatory Framework

California has enacted multiple laws and regulations that provide for the protection of paleontological resources. This investigation was conducted to meet these requirements regarding paleontological resources on the lands proposed for development.

2.1 State of California

2.1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA (Public Resources Code [PRC] Sections 21000 et seq) requires that before approving most discretionary projects, the Lead Agency must identify and examine any significant adverse environmental effects that may result from activities associated with such projects. As updated in 2016, CEQA separates the consideration of paleontological resources from cultural resources (PRC Section 21083.09). The Appendix G checklist (Title 14, Division 6, Chapter 3, California Code of Regulations 15000 et seq.) requires an answer to the question, "Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" Under these requirements, Stantec has conducted a paleontological resources assessment to determine impacts of the proposed project on paleontological resources within the Project area.

2.1.2 PUBLIC RESOURCES CODE

The California PRC (Chapter 1.7, Section 5097) includes additional state-level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, define the removal of paleontological sites or features from state lands as a misdemeanor, and prohibit the removal of any paleontological site or feature from state land without permission of the applicable jurisdictional agency.

2.1.3 CALIFORNIA COASTAL ACT

The California Coastal Act (PRC Division 20) requires reasonable mitigation measures where development would adversely impact archaeological or paleontological resources that have been designated by the State Historic Preservation Officer (Section 30244).

2.2 City of Seal Beach

2.2.1 GENERAL PLAN

The City's General Plan (2003) includes paleontological resources in the Cultural Resources Element, the purpose of which is to preserve historic, archaeologic, and paleontological resources within the City. The City requires assessment of development proposals for potential impacts to significant paleontological resources pursuant to Section 15064.5 of CEQA. If a project involves earthwork, the City requires a study

conducted by a professional paleontologist to assess if paleontological assets are present and if the project will significantly impact the resources. If significant impacts are identified, the City requires the project to either be modified to avoid impacting the paleontological materials or require measures to mitigate the impacts.

3.0 Professional Standards

A variety of professional guidelines have been developed that outline protocols and practices for conducting mitigation paleontology. In particular, some studies have focused on establishing best practices for conducting mitigation paleontology, including resource assessments and surveys, monitoring and other forms of mitigation, and data and fossil recovery in a mitigation context, which differs from academic paleontology in the constraints of working on construction sites and schedules as well as the purpose of mitigation paleontology as a tool for regulatory compliance (Landon 2006; Murphey et al. 2019; Scott and Springer 2003; SVP 2010). Furthermore, a robust body of scientific literature exists outlining best practices for paleontological data collection and management of fossils and fossil localities, some of which is authored by agency representatives (Lucas et al. 2006 and references therein; Santucci and McClelland 2001 references therein; Santucci and Koch 2003; Santucci et al. 2009).

This study conforms to these industry best practices.

4.0 Methodology

The paleontological resources assessment reported herein consisted of an analysis of existing data incorporating a museum records search from the Natural History Museum of Los Angeles County (LACM) and a review of the scientific literature, geologic mapping, and the online database of the University of California Museum of Paleontology (UCMP). To assess if paleontological resources are likely to be encountered in any given area, the paleontological potential of the geologic units present in the area is assessed. Paleontological potential is derived from the known fossil data collected from the geologic unit as a whole, not just from a specific survey or study. Paleontological potential of a geologic unit consists of both (a) the potential for yielding abundant vertebrate fossils or for yielding scientifically important fossils, whether large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and scientifically important taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data (SVP 2010).

The paleontological assessment presented here was conducted by Stantec Principal Paleontologist Alyssa Bell, Ph.D. Background research was conducted by Paleontologist Ceara Purcell, M.S. Geographic Information System (GIS) maps were drafted by GIS Technician Kayla de la Pena, B.S. This report was authored by Dr. Bell with the assistance of Ms. Purcell and reviewed by Paleontologist Matthew Cline, M.S. Stantec's work in support of the Project was managed by Anna Radonich, B.S., who coordinated Stantec's work and provided quality assurance and control.

4.1 Analysis of Existing Data

In order to assess the paleontological potential of the Project area, the most recent geologic mapping of the Project area was consulted to identify the geologic units present at the surface or likely present in the subsurface. A records search was requested from the LACM on January 24, 2024, with results received on January 28, 2024 (Appendix A). The search returned the closest known paleontological localities of the LACM to the Project sites from geological units present in the Project area, either at the surface or in the subsurface. A review of the scientific literature was conducted to determine the history of each of the geologic units mapped as present at the surface or likely present in the subsurface of the Project area for preserving paleontological resources. A search was conducted of the UCMP's online database on January 26, 2024, and updated on October 18, 2024 for Pleistocene-aged localities from Los Angeles and Orange Counties. The UCMP's database does not provide specific geographic locations beyond the county the fossils were recovered from but does include locality names that can sometimes be used to infer the general area of the locality.

4.2 Paleontological Potential

The results of the analysis of existing data were used to assign the paleontological potential rankings of the SVP (2010) to the geologic units likely present in the Project area. These rankings are designed to inform the development of appropriate mitigation measures for the protection of paleontological resources and are widely accepted as industry standards in paleontological mitigation (Murphey et al. 2019; Scott and Springer 2003). These rankings are as follows:

> **High Potential.** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rock units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations that are temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.), some volcaniclastic formations (e. g., ashes or tephras), and some low-grade metamorphic rocks.
>
> **Undetermined Potential**. Rock units for which little information is available in the literature or museum records concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study and field work is necessary to determine if these rock units have high or low potential to contain significant paleontological resources.
>
> **Low Potential**. Rock units that are poorly represented by fossil specimens in institutional collections or, based on general scientific consensus, only preserve fossils in rare circumstances (e. g., basalt flows or Recent colluvium) have low paleontological potential.

No Potential. Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites).

4.3 Paleontological Impacts Assessment

Following the assessment of paleontological potential, an impacts assessment was conducted comparing anticipated development activities resulting from the proposed Housing Element Updates with mapped geologic units and their paleontological potential. As specific activities are not known at this time, the impacts assessment conducted is restricted to generalities of possible ground disturbance. Where potential adverse impacts from Project activities were identified, mitigation recommendations were developed to reduce those impacts to less than significant.

Impacts to paleontological resources can be classified as direct, indirect, or cumulative. Impacts can also be considered as adverse impacts or as beneficial impacts. Direct adverse impacts on paleontological resources are the result of damage or destruction of these nonrenewable resources by surface disturbing actions including construction excavations. Therefore, in areas that contain paleontologically sensitive geologic units, ground disturbance has the potential to adversely impact paleontological resources by damaging or destroying them and rendering them permanently unavailable to science and society. Beneficial direct impacts, however, may result when paleontological resources are identified during construction and appropriately documented and salvaged, thus ensuring the specimens are protected for future study and education.

Indirect impacts typically include those effects which result from the continuing implementation of management decisions and resulting activities, including normal ongoing operations of facilities constructed within a given project area. Human activities that increase erosion can also cause indirect impacts to surface and subsurface fossils as the result of exposure, transport, weathering, and reburial.

Cumulative adverse impacts can result from incrementally minor but collectively significant actions taking place over time. The incremental loss of paleontological resources over time from construction-related surface disturbance or vandalism and unlawful collection would represent a significant cumulative adverse impact, because it would result in the destruction of non-renewable paleontological resources and the associated irretrievable loss of scientific information.

The impact assessment conducted here takes into consideration potential development activities and the geology of the eight Housing Opportunity Sites as well as the Main Street Program area, including the possibility of subsurface geologic units having a different paleontological potential than surficial units. For example, younger surficial sediments (alluvium, lacustrine, eolian, etc.) have low potential to preserve paleontological resources due to their age; yet sediments increase in age with depth and so these surficial deposits often overly older units that have high paleontological potential. In areas with this underlying geologic setting surficial work may be of low risk for impacting paleontological resources while activities that require excavations below the depth of the surficial deposits would be at greater risk of impacting paleontological resources. For this reason, and because specifics of future development such

as depths of ground disturbance are not known at this time, this impact assessment takes into consideration both the surface and subsurface geology of the Project sites overall.

5.0 RESULTS

5.1 Geologic Setting

The Project area is located in the Los Angeles Basin, a structural depression approximately 50 miles long and 20 miles wide in the northernmost Peninsular Ranges geomorphic province and just to the south of the Transverse Ranges geomorphic province (Ingersoll and Rumelhart 1999). The Los Angeles Basin developed as a result of tectonic forces and the San Andreas fault zone, with subsidence occurring 18 to 3 million years ago (Ma) (Critelli et al. 1995). Sediments dating back to the Cretaceous (66 Ma) are preserved in the basin, but continuous sedimentation did not begin until the middle Miocene (around 13 Ma) (Yerkes et al. 1965). Thousands of feet of accumulation have resulted from sediments eroding into the basin from the surrounding highlands since that time (Yerkes et al. 1965). Until sea level dropped in the Pleistocene, most sediments deposited in the basin were marine. Following sea level fall, depositional of terrestrial alluvial sediments began, forming the uppermost units in the Los Angeles Basin.

The Los Angeles Basin is subdivided into four structural blocks. The Project occurs in the roughly rectangular Southwestern Block, most of which is beneath the Pacific Ocean, that extends 28 miles from the northwest to the southeast and is bound in the northwest by the Santa Monica Mountains (Yerkes et al. 1965). In the Southwestern Block sediments are about 20,500 feet thick (Yerkes et al. 1965). The coastal margin of the Southwestern Block, where the Project is located, is characterized by a series of emergent marine wave-cut terraces capped by paralic deposits, or interfingering marine and continental sediments (Saucedo et al. 2016).

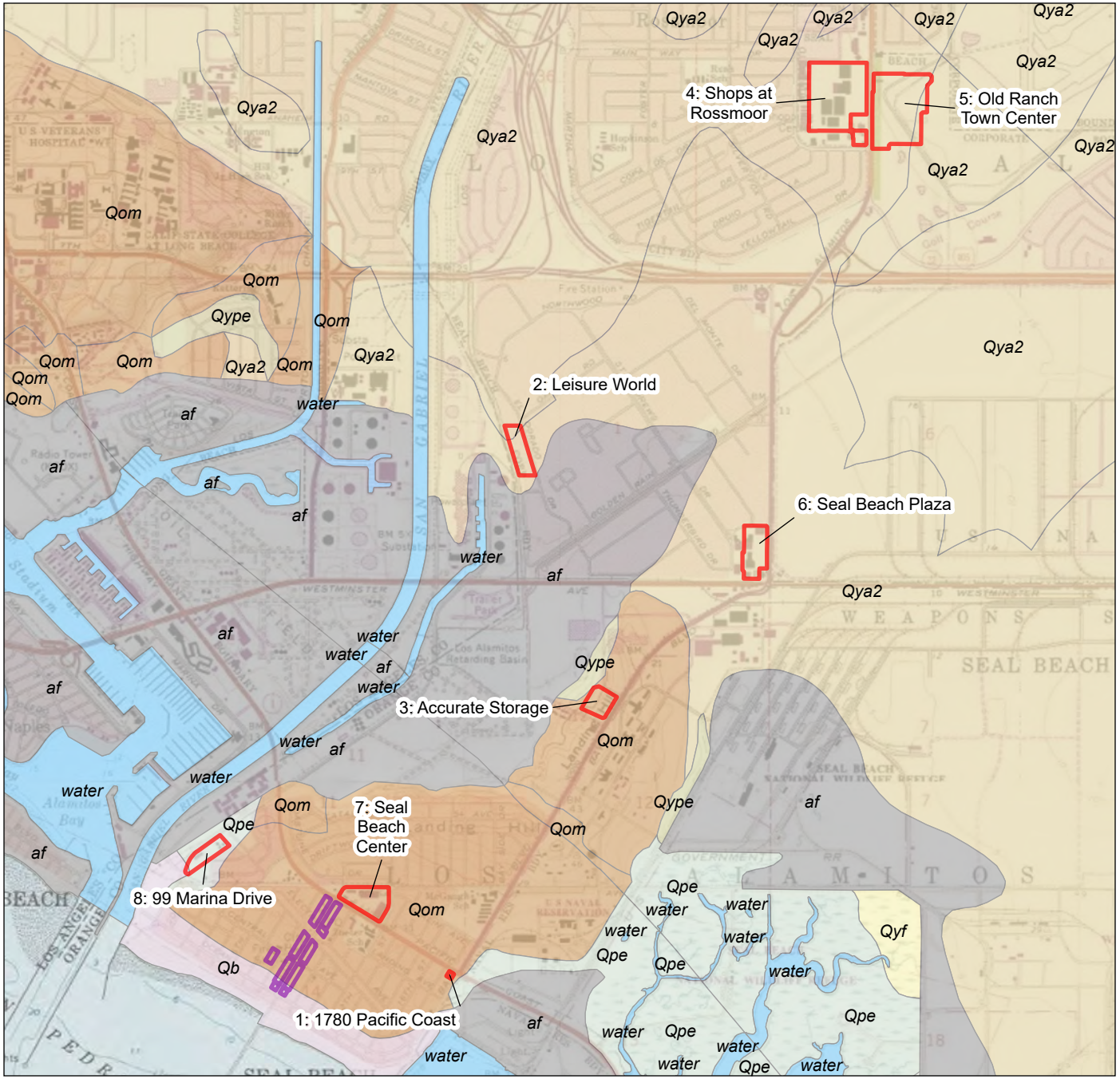
5.2 Project Area Geology and Paleontology

Geologic mapping by Saucedo et al. (2016) indicates the surface of the Project area consists of recent beach deposits, Holocene to late Pleistocene alluvial deposits and paralic estuarine deposits as well as middle to late Pleistocene shallow marine deposits on wave-cut terraces (Figure 3). The San Pedro Formation is also likely present in the subsurface (Table 1). These geologic units are described below.

Beach deposits (Qb in Figure 3). Beach deposits are mapped in the southwestern portion of the map and underlie the southwestern edge of the Main Street Program area (Saucedo et al. 2016). These sediments are composed of unconsolidated, well-sorted fine- to coarse-grained sand that date from the late Holocene (Saucedo et al. 2016). Given their age, they are too young to preserve fossils and so are assigned low paleontological potential. However, they may be underlain at an unknown depth by older units with high paleontological potential.

Paralic estuarine deposits (Qpe in Figure 3). Paralic estuarine deposits are mapped in the southern portion of the Project area, underlying the 99 Marine Drive site (Saucedo et al. 2016). These sediments are unconsolidated loose to moderately dense fine-grained sand, silt, and clay deposited in an estuarine

setting that date to the late Holocene (Saucedo et al. 2016). As for beach deposits, they are too young to preserve fossils and so are assigned low paleontological potential. However, they may be underlain at an unknown depth by older units with high paleontological potential.



Stantec

- Sites
- Main Street Program

Geology

- water
- af: Artificial fill
- Qb: Beach deposits
- Qpe: Paralic estuarine deposits
- Qya_2: Young alluvium, Unit 2
- Qyf: Young alluvial fan deposits
- Qype: Young paralic estuarine deposits
- Qom: Old shallow marine deposits on wave-cut surface

N

0 0.2 0.4 Miles
(At original document size of 8.5x11)
1:32,000

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: City of Seal Beach 2024, California Dept of Conservation, NGMDB
3. Background: USA Topo Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Ocean Base: Esri, GEBCO, Garmin, NaturalVue
World Ocean Reference: Esri, GEBCO, Garmin, NGS

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-22
IR by AB on 2024-10-22

Client/Project
204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
3

Title
Geologic Map of the Project Area

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-22 By: kdelapena

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5.0 RESULTS

Table 1 Paleontological potential of geologic units within the Project area

Geologic Unit	Age	Occurrence within Project area	Paleontological Potential*
Beach deposits	Late Holocene	Surface - Main Street Program area	Low
Paralic Estuarine Deposits	Late Holocene	Surface - 99 Marina Drive	Low
Young alluvium Unit 2	Holocene and late Pleistocene	Surface - Shops at Rossmoor, Old Ranch Town Center, Leisure World, Seal Beach Plaza	Low-to-High, increasing with depth
Old shallow marine deposits on a wave-cut surface	Late to middle Pleistocene	Surface - Accurate Storage, Seal Beach Center, 1780 Pacific Coast, and the Main Street Program area	High
Older Pleistocene-aged Formations	Middle to early Pleistocene	Subsurface – possible across Project area	High

**ranking based on the SVP (2010) classifications*

Young alluvium, Unit 2 (Qya2 in Figure 3). Young alluvium, Unit 2 is mapped throughout the northeastern portion of the Project area, underlying the Shops at Rossmoor, Old Ranch Town Center, Leisure World, and Seal Beach Plaza sites (Saucedo et al. 2016). These sediments consist of poorly consolidated and poorly sorted flood-plain deposits of soft clay, silt, and loose to moderately dense sand and silty sand that date from the Holocene and late Pleistocene (Saucedo et al. 2016). As such, they range in age to over 11,700 years, the end of the late Pleistocene. As fossils are 5,000 years in age and older, the deeper portions of this unit, corresponding to the middle Holocene and older, are of an age to preserve fossils.

The locality search from the LACM (2024) provides data on the two Pleistocene-aged terrestrial fossil localities known to the LACM closest to the Project area from sediments similar to the alluvium of the Project area (Table 2). The closest of these is from Seal Beach, southeast of the Project area where a camel fossil was found on the beach, likely having eroded from alluvial sediments or terrace deposits (LACM 2024). The second is from Huntington Beach, where mammoth, bison, and invertebrate fossils were found at depths of 6 feet to 20 feet below ground surface (bgs). The online records search from the UCMP (2024) indicates they have 491 Pleistocene-aged fossil localities from Los Angeles County (exclusive of asphaltic localities at Rancho La Brea and microfossil localities) and 122 fossil localities from Orange County. While specific geologic information is not available online for most of these localities, 16 in Los Angeles County and three from Orange County appear to be from alluvial settings and likely represent a similar depositional environment to that of the older portions of the alluvium in the Project area. These sites yielded a variety of fossils, including invertebrates (seven localities), plants (six localities), and vertebrate fossils (seven localities) (UCMP 2024).

A review of the scientific literature indicates that Pleistocene-aged alluvial sediments are well known for the preservation of fossils representing a rich Ice Age fauna in the Los Angeles Basin and vicinity. These include animals still found in North America today, such as deer, bison, sheep, and horses; creatures no longer found in North America, such as camels, lions, cheetahs, and sloths; and extinct creatures such as

5.0 RESULTS

Table 2 Summary of the records search from the Natural History Museum of Los Angeles County

Locality Number	Geologic Unit	Age	Taxa	Approximate Location	Depth
LACM VP 3291	Unnamed formation	Pleistocene	Camel (*Camelops hesternus*)	Sunset Beach; approximately 1.2 miles southeast of the 1780 Pacific Coast site	Surface
LACM VP 65113	Unnamed formation	Pleistocene	Mammoth (*Mammuthus*), bison (*Bison*); uncatalogued invertebrates	5092 Wintersburg Avenue in Huntington Beach; approximately 5.4 miles southeast of the Seal Beach Plaza site	6 – 20 feet bgs
LACM VP 1121	Terrace deposits	Pleistocene	Mammoth (*Mammuthus*), sea otter (*Enhydrus*), horse (*Equus*)	Just south of Seal Beach; offshore from the Optional Site	15 feet below sea level
LACM VP 7739	Coastal deposits	Late Pleistocene	Invertebrates (snails; clams; tusk shells; barnacles; crabs; sea urchins); requiem shark (*Carcharhinus*), Spotted cusk eel (*Chilara*), croakers (*Genyonemus, Seriphus*), school shark (*Galeorhinus*), righteye flounder (*Glyptocephalus*), guitarfish (*Rhinobatos*), toadfish (*Porichthys*), perch (*Cymatogaster, Damalichthys*), bullhead shark (*Heterodontus*), ray (Dasyatis, *Myliobatus, Raja*), surfperch (*Embiotoca, Hyperprosopon, Micrometrus*), flatfish (*Citharichthys*), leopard shark (*Triakis*), slender sole (*Lyopsetta*), dogfish shark (*Squalus*), skate (*Squatina*), barracuda (*Sphyraena*)	Bluff Park (on the beach) in Long Beach; approximately 2.9 miles northwest of the 99 Marine Drive site	56 feet bgs
LACM IP 4865	Palos Verdes Sand	Pleistocene	Decapoda, sand dollar (*Dendraster*), gastropods (*Balcis, Californiconus, Calliostoma,* Cerithideopsid*, Chlorostoma, Crucinulum, Euclia, Hirtoscala, Turbonilla*), ichnofossils (*Helicotaphrichnus*), bivalves (*Coanicardita, Crepidula, Leukoma, Siliqua, Tellina*), (*Crucinulum*), and others	East side of Pacific Coast Highway; between Seventh and Colorado Streets in Long Beach; approximately 1.6 miles west of the Leisure World site	Surface

mammoths, dire wolves, and saber-toothed cats (Jefferson 1991 a and b, Graham and Lundelius 1994, McDonald and Jefferson 2008, Miller 1971, Reynolds and Reynolds 1991). In addition to these iconic large animals, a wide variety of small animals can be preserved, including reptiles such as frogs, salamanders, snakes (Hudson and Brattstrom 1977), and birds (Collins et al. 2018, Jones et al. 2008,

Miller 1941). These fossils are important for recreating the history of Southern California, in particular studying climate change (e.g., Roy et al. 1996), extinction (e.g., Barnosky et al. 2004, Jones et al. 2008, Sandom et al. 2014, Scott 2010), and paleoecology (e.g., Connin et al. 1998, Trayler et al. 2015).

Given the record of paleontological resources recovered from middle Holocene and older alluvial deposits both near the Project area and more broadly across the Los Angeles Basin, these deposits are assessed as having low paleontological sensitivity at the surface, in the late Holocene portions of the unit, increasing to high paleontological potential in the older, deeper portions of the unit. The exact depth at which this transition occurs cannot be determined precisely in the Project area; however, the records of the LACM and reports in the scientific literature (i.e., Jefferson 1991a and 1991b, Reynold and Reynolds 1991) indicate that fossil have been found as shallowly as 5 feet to 6 feet bgs in the vicinity of the Project area.

Old shallow marine deposits on a wave-cut surface (Qom in Figure 3). These marine deposits, often referred to as terraces or terrace deposits, are mapped underlying the Accurate Storage, Seal Beach Center, 1780 Pacific Coast, and the Main Street Program area (Saucedo et al. 2016), but may be present more broadly in the subsurface, underlying the younger alluvial and paralic deposits. These deposits consist of terraces uplifted by regional tectonics, forming blocks of late to middle Pleistocene-aged marine and coastal sediments. These sediments are poorly sorted, moderately permeable, and reddish-brown, and represent interfingered strandline, beach, estuarine, and colluvial deposits composed of siltstone, sandstone, and conglomerate (Saucedo et al. 2016). They lie on uplifted emergent wave-cut abrasion platforms and may locally include older alluvium (Saucedo et al. 2016). These terraces are of an age to preserve fossils.

The results from the LACM (2024) include two localities from coastal or terrace deposits, the closest of which is just offshore from Seal Beach, where mammoth, bison, and otter fossils were recovered from 15 feet below sea level (LACM 2024). This type of intermixed coastal and terrestrial fauna is typical of older terrace deposits, given the interfingering of terrestrial and costal sediments that typically mantle them. An additional site is recorded in Bluff Park, northwest of the Project area, where a diverse fish and marine invertebrate fauna were recovered from 56 feet bgs. Of the UCMP (2024) localities for which depositional environment can be inferred, 87 in Los Angeles County and 46 in Orange County are from marine depositional settings, but it cannot be determined from available data how many are from formal geologic units, such as the Palos Verde Sand described below, as opposed to terrace deposits.

Pleistocene-aged marine terraces and associated coastal deposits have a rich fossil record from Ventura County along the southern California coast and into Baja California, as reported in the scientific literature (Kern 1971, 1977; DeDiego-Forbis et al. 2004). The vast majority of these fossils are marine invertebrate shell beds, but are vertebrate fossils are also reported (Bryant 1987). The scientific importance of these invertebrate fossils stems from the specificity of many types of marine invertebrates for water conditions such as depth and temperature in which they live (Kern 1977). Thus, the terrace deposits preserve fossils that allow scientists to reconstruct climate change, sea levels, tectonic processes, and depositional facies across space and time, using the taxonomic composition of the invertebrate fossils (Vedder and Norris 1963; Castillo et al. 2018; Kennedy et al. 1982; Grant et al. 1999). As the Pleistocene to Holocene transition was a time of great variation in sea level as the ice ages came to an end, such studies are

important for understanding how fauna respond to a changing environment (Kennedy et al. 1982; Muhs and Groves 2018).

Given the extensive record of paleontological resource discoveries from older terrace deposits, mapped as old shallow marine deposits on a wave-cut surface in the Project area, these deposits are assessed as having high paleontological potential.

Older Pleistocene-aged Marine Formations (not mapped in Figure 3). Underlying the coastal and alluvial deposits in the Project area and around the greater San Pedro Bay are a series of early to middle Pleistocene formations that form the oldest of the marine terraces. While not exposed at the surface in the Project area, they may be encountered in the subsurface at unknown depths. These units include the San Pedro Formation, Palos Verdes Sand, the Lomita Marl, and the Timms Point Silt, which preserve shallow marine seafloor environments. These units are well documented for the preservation of a diverse and abundant fauna, dominated by invertebrates but with marine vertebrates documented as well as occasional terrestrial vertebrates that washed out to sea for burial (Long 1993; Powell and Stevens 2000; Rodda 1957). The LACM (2024) reports the closest fossil locality from these units as a dense accumulation of invertebrates from the Palos Verdes Sand approximately 1.6 miles west of the Project area. The UCMP (2024) has records of close to 300 localities from these units, with thousands of specimens in the collections.

These units have high paleontological potential, as they are well documented for preserving a range of scientifically important fossils across the Los Angeles Basin.

5.3 Potential Impacts to Paleontological Resources from Project Activities

The Project proposes to update the Housing Element to include the identification of eight Housing Opportunity Sites and the Main Street Program, a modification of the existing Main Street Specific Plan to provide additional residential developments at currently unspecified locations. As the Project does not include any specific plans for ground disturbing activities, there are no direct adverse impacts to paleontological resources. However, particular projects conducted as a result of the rezoning and new zoning designations can be reasonably expected to include ground disturbance.

New ground disturbance that occurs in geologic units with high paleontological potential may encounter paleontological resources. Should this occur during one of the resulting development projects from the updates to the Housing Element, the damage or destruction of the resources would constitute an indirect adverse impact of this Project. Within the Project area, this could occur at any depth in the Seal Beach Center, Accurate Storage, 1780 Pacific Coast, or the Main Street Program area, and at depths greater than an estimated 5 feet at the other Project Sites. Should such adverse impacts occur, they would contribute to cumulative impacts from the Project, along with similar such impacts from other development projects that may take place in the same area, and which target similar geologic units.

6.0 Recommendations and Management Considerations

This assessment identifies possible indirect and cumulative adverse impacts that may result from this Project, should fossils with scientific importance, i.e., paleontological resources, be encountered during construction stemming from the updates to the Housing Element. Therefore, Stantec has developed mitigation recommendations for actions to reduce these potential impacts to less than significant, in accordance with CEQA requirements.

A successful mitigation program is one which provides for the identification and appropriate treatment of paleontological resources. Important components are therefore worker training, so the construction personnel are aware of their obligations and actions to take in the event they discover a fossil, as well as oversight by trained paleontologists. This oversight is typically through onsite monitoring of construction activities.

During monitoring, a paleontologist observes construction activities and halts construction temporarily to inspect the exposed sediments. If fossils are observed, the paleontologist will recognize them and stop work so that they can be assessed and, if found to meet criteria for scientific importance, salvage them for conservation and curation in a museum. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if they are scientifically important, successful mitigation and salvage efforts may be undertaken to prevent adverse impacts to these resources.

The ability to apply monitoring as a successful mitigation tool is tied to the nature of the ground disturbing activity. Construction monitoring requires a paleontologist to be able to observe either cuts into the ground, such as the sidewalls of trenches or a graded ground surface, or to observe spoils piles, such as from drilling or trenching. Methods such as grading, trenching, mass excavation, and augering produce either cut surfaces or spoils, and so are appropriate targets for paleontological monitoring. Activities such as grubbing and landscaping do not typically involve sufficient ground disturbance to warrant monitoring, while methods such as hydro vacuum and very narrow diameter augering (under 12 inches) are unlikely to allow for the identification of scientifically important fossils.

The methods and depths of ground disturbance are currently undefined for particular development projects that may result from the update to the Housing Element. Therefore, Stantec recommends a qualified paleontologist meeting professional standards as defined by Murphey et al. (2019) be retained as the designated Project Paleontologist to review project-specific construction plans and develop a project-specific paleontological mitigation program. The mitigation program should include the following components:

- For each development the Project Paleontologist should develop and oversee the implementation of a Paleontological Monitoring and Mitigation Plan tailored to specific construction plans and geotechnical studies, should these be available, that identifies when or under what conditions paleontological monitoring should be implemented. The plan should include provisions for worker training, roles and qualifications of paleontology staff following those of Murphey et al. (2019), depths and locations for monitoring, types of work to be monitored, monitoring procedures,

requirements for final reporting of the results of the mitigation program, and fossil discovery protocols for work stoppage, assessment, and possible salvage and curation, in the event a fossil is found during construction.

- Fulltime paleontological monitoring is warranted when work occurs in the geologic units assessed as having high paleontological potential in this study: when over 5 foot in depth in unit 2 of the young alluvium, or at any depth in old shallow marine deposits on a wave-cut surface, the San Pedro Formation, the Paleo Verdes Sand, the Lomita Marl, and the Timms Point Silt. Work into previously disturbed sediments, beach deposits, paralic estuarine deposits, or the upper 5 feet of unit 2 of the young alluvium does not require monitoring. After the initiation of the monitoring work, the Project Paleontologist may reduce the frequency or depths of monitoring should low paleontological potential sediments be identified in the monitoring area.

- The Project Paleontologist should develop a Worker's Environmental Awareness Program training that communicates requirements and procedures for the inadvertent discovery of fossils during construction, to be delivered by the paleontological monitor to the construction crew prior to the onset of ground disturbance.

- In the event that paleontological resources are encountered during construction activities, work should stop in a safe radius of the finds, usually 50 feet, while the paleontological monitor documents the find. If a monitor is not onsite at the time of discovery, such as for an inadvertent discovery in an area of low paleontological potential, work should stop until the Project Paleontologist can assess the find. The Project Paleontologist shall assess the find. Should the Project Paleontologist assess the find as scientifically important, the find shall be collected and curated in an accredited repository along with associated data such as photographs, GPS coordinates, lithological descriptions, and depth data, as well as curation fees.

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APPENDIX A

Records Search Results from the Natural History Museum of Los Angeles County

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

January 28, 2024

Stantec Consulting Services Inc.
Attn: Ceara Purcell

re: Paleontological resources for the City of Seal Beach Housing Element and Zoning Code Updates Project (2042665000)

Dear Ceara:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the City of Seal Beach Housing Element and Zoning Code Updates project area as outlined on the portion of the Los Alamitos and Seal Beach USGS topographic quadrangle map that you sent to me via e-mail on January 24, 2024. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that may occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County (NHMLA).

Locality Number	Location	Formation	Taxa	Depth
LACM VP 3291	Sunset Beach at low tide, 50 yards north of Anderson Street & west of Pacific Coast Highway	Unknown Formation (Pleistocene)	Camel (*Camelops hesternus*)	Surface
LACM VP 1121	Just south of Seal Beach	Pleistocene terrace deposit	Mammoth (*Mammuthus*), sea otter (*Enhydrus*), horse (*Equus*)	15 feet below sea level
LACM VP 65113	5092 Wintersburg Road; Huntington Beach	Unknown formation (Pleistocene)	Mammoth (*Mammuthus*), bison (*Bison*); uncatalogued invertebrates	6 - 20 feet bgs
LACM IP 4865	Bluff on north side of the Stonebrook Apartment complex on the east side of Pacific Coast Highway; between	Palos Verdes Sand	Decapoda, sand dollar (*Dendraster*), gastropods (*Balcis, Californiconus*, *Calliostoma,* Cerithideopsid, *Chlorostoma, Crucinulum, Euclia, Hirtoscala, Turbonilla*), ichnofossils	Surface

Locality Number	Location	Formation	Taxa	Depth
	Seventh and Colorado Streets; city of Long Beach		(*Helicotaphrichnus*), bivalves (*Coanicardita*, *Crepidula*, *Leukoma, Siliqua*, *Tellina*), (*Crucinulum*), and others	
LACM VP 7739	Bluff Park (on the beach adjacent to the eastern half of the southern edge of the parking lot); Long Beach	Late Pleistocene* coastal deposits (dark gray massive sandy silt)	Invertebrates (snails; clams; tusk shells; barnacles; crabs; sea urchins); requiem shark (*Carcharhinus*), Spotted cusk eel (*Chilara*), croakers (*Genyonemus, Seriphus*), school shark (*Galeorhinus*), righteye flounder (*Glyptocephalus*), guitarfish (*Rhinobatos*), toadfish (*Porichthys*), perch (Cymatogaster, Damalichthys), bullhead shark (*Heterodontus*), ray (Dasyatis, *Myliobatus, Raja*), surfperch (*Embiotoca, Hyperprosopon, Micrometrus*), flatfish (*Citharichthys*), leopard shark (*Triakis*), slender sole (*Lyopsetta*), dogfish shark (*Squalus*), skate (*Squatina*), barracuda (*Sphyraena*)	56 feet bgs

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface
** Locality is 25 feet below carbon-14 accelerator mass spectrometry date of 43180 +/-710 years*

This records search covers only the records of the NHMLA. It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice

Appendix F
VMT Tables

Stantec

Table 1: OCTAM 5 Data by Traffic Analysis Zone – Baseline Conditions

OCTAM TAZ in City of Seal Beach	Existing (2016) Conditions				
	Total VMT	Home-Based VMT	Population	Home-Based VMT per Capita	Average Trip Length (miles)
637	335,838.01	110,756.36	4,433	24.98	9.56
638	26,758.69	17,726.73	841	21.08	9.77
639	276,149.07	133,896.71	5,201	25.74	9.97
640	134,632.90	48,235.01	4,174	11.56	9.27
641	107,522.36	53,498.05	3,592	14.89	10.08
642	514.57	169.81	0	0.00	122.34
643	93,759.27	3,971.09	191	20.79	11.95
644	21,720.62	14,558.82	615	23.67	13.77
645	75,341.26	37,611.53	1,646	22.85	8.24
646	65,125.12	42,154.07	2,183	19.31	8.79
647	156,494.73	87,144.75	3,280	26.57	9.19
648	116,467.25	32,784.39	1,305	25.12	8.73
649	36,230.19	9,349.64	456	20.50	7.72
890	44,829.92	33,783.67	1,288	26.23	9.54

OCTAM = Orange County Transportation Analysis Model; TAZ = traffic analysis zone; VMT = vehicle miles travelled

Source: OCTAM 5 provided by Orange County Transportation Authority, February 2024

Table 2: OCTAM 5 Data by Aggregate Area – Baseline Conditions

Area	Existing Conditions - Home				
	Total VMT	Home-Based VMT	Population	Home-Based VMT per Capita	Average Trip Length (miles)
City of Seal Beach	1,110,716.03	481,100.60	23,484	20.49	10.35
Orange County	147,389,574.57	59,270,426.88	3,179,626	18.64	9.55

VMT = vehicle miles travelled

Source: OCTAM 5 provided by Orange County Transportation Authority, February 2024

Table 3: RHNA Opportunity Site VMT Analysis Summary

Opportunity Site No.	Site Name	Total Residential Units	TAZ	Home-Based VMT per Capita	Threshold of Significance	Above or Below Threshold of Significance	Difference	% Difference	% Reduction Needed to Mitigate Impact
1	1780 Pacific Coast Highway	5	648	25.12	20.49	Above	4.63	22.60%	18.43%
2	Leisure World	177	640	11.56	20.49	Below	-8.93	-43.58%	--
3	Accurate Storage	83	643	20.79	20.49	Above	0.30	1.46%	1.44%
4	The Shops at Rossmoor	552	637	24.98	20.49	Above	4.49	21.91%	17.97%
5	Old Ranch Town Center	382	639	25.74	20.49	Above	5.25	25.62%	20.40%
6	Seal Beach Plaza	69	640	22.23[1]	20.49	Above	1.74	8.49%	7.83%
7	Seal Beach Center	124	649	20.50	20.49	Above	0.01	0.05%	0.05%
8	99 Marina Drive	99	647	26.57	20.49	Above	6.08	29.67%	22.88%
Main Street	Main Street	115	647	26.57	20.49	Above	6.08	29.67%	22.88%
Total		1606	--	22.67	20.49	Above	2.18	10.64%	9.62%

TAZ = traffic analysis zone; VMT = vehicle miles travelled

[1] TAZ 640 includes Leisure World and the HEU opportunity site is not age-restricted, therefore, the HB VMT capita for the HEU opportunity site is estimated using the average of TAZ 643 (20.79) and TAZ 644 (23.67).

"% Reduction Needed to Mitigate Impact" represents the minimum percent reduction in HB VMT per capita needed to equal the Citywide Average Baseline (i.e., threshold of significance).

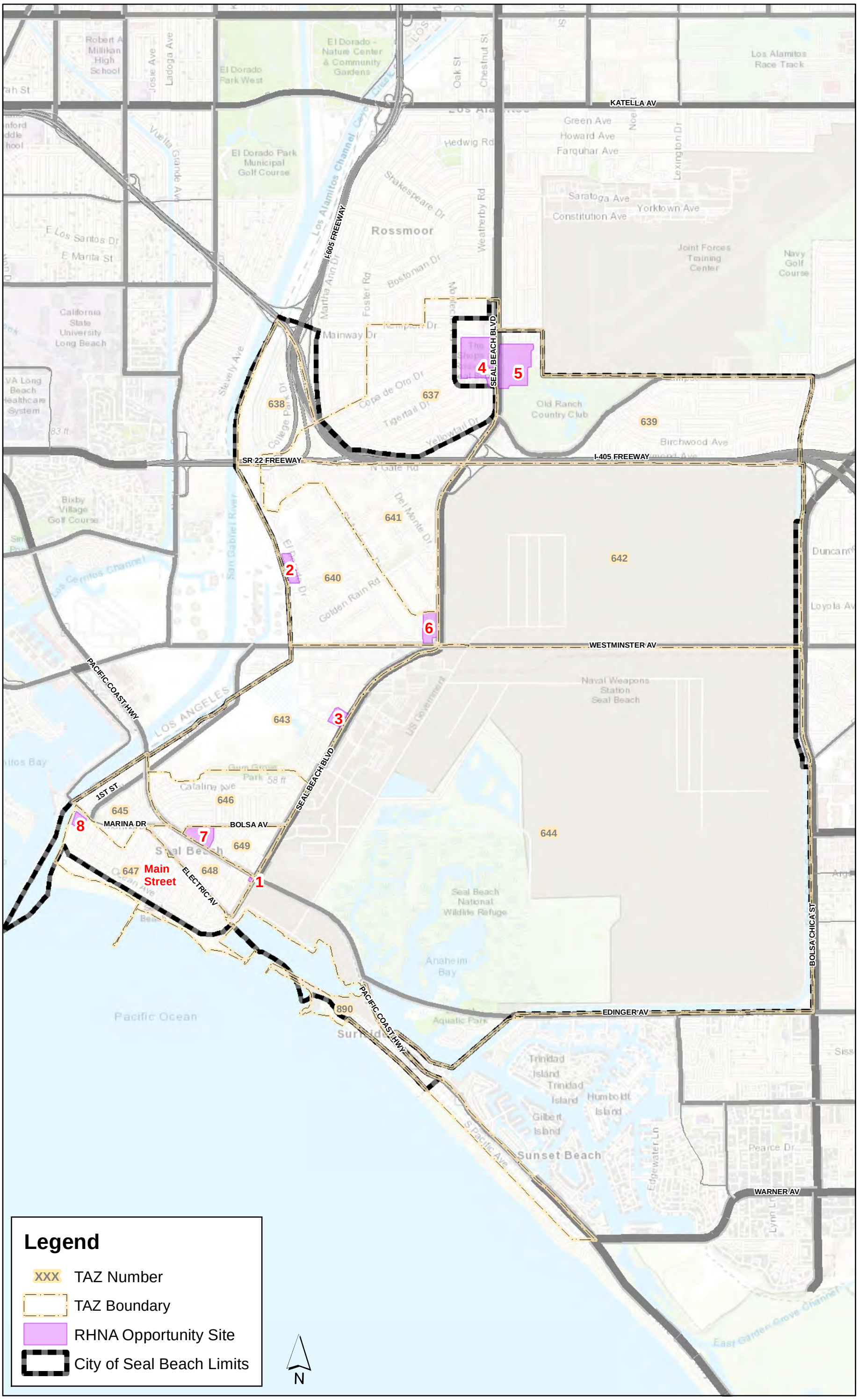


Figure 1

OCTAM 5 Traffic Analysis Zones (TAZ)

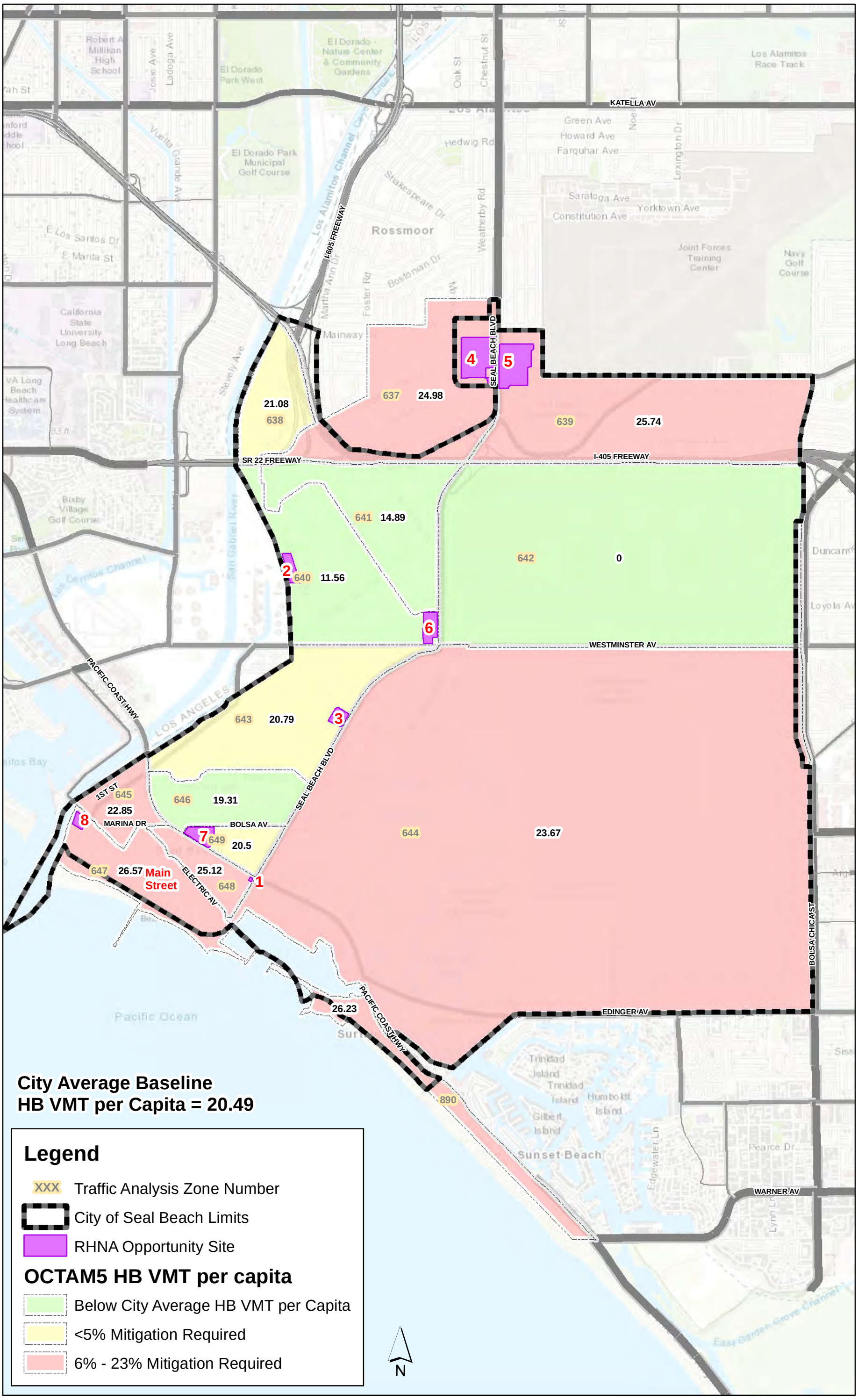


Figure 2

OCTAM 5 Baseline HB VMT per Capita Estimates

Appendix G
Water Supply Assessment

Water Supply Assessment

City of Seal Beach, Orange County, CA

Final Report

April 30, 2025

Prepared for:

City of Seal Beach
Community Development Department
211 Eighth Street
Seal Beach, CA 90740

Prepared by:

Stantec Consulting Services Inc.
200 East Carrillo Street, Suite 101
Santa Barbara, CA 93101

WATER SUPPLY ASSESSMENT

April 30, 2025

Revision	Description	Author		Quality Check		Independent Review	
0	Draft	GMK	10/25/24	CEP/ JTZ	10/25/24	AR	10/22/24
1	Final	JTZ	4/25/25	CEP	4/25/25	AR	4/25/25
2	Revised Final	JTZ	4/30/25	CEP	5/2/25	AR	4/30/25

WATER SUPPLY ASSESSMENT

April 30, 2025

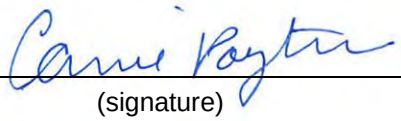
This document entitled Water Supply Assessment was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of City of Seal Beach (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light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

Prepared by (signature)

Gabrille Kasman, EIT

Reviewed by (signatures)

Jonny Zukowski, PE

Approved by  (signature)

Carrie Poytress, PE

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Executive Summary

City of Seal Beach retained Stantec Consulting Services Inc. (Stantec) to prepare this Water Supply Assessment (WSA) for the Housing Element Updates Project (Project) in Seal Beach, California. The Project includes the use of potable water from the City of Seal Beach (City) and Golden State Water Company (GSWC). This WSA was conducted in conformance with the requirements of the California Water Code (CWC).

The purpose of this WSA is to determine whether the projected water supplies available to the retail water suppliers, the City of Seal Beach and GSWC, are adequate to serve the projected water demands established in both the City of Seal Beach's 2020 Urban Water Management Plan (UWMP) update (prepared by Arcadis U.S., Inc), and the GSWC's 2020 UWMP West Orange Service Area by Tully & Young, and the water demands generated by the Project. The UWMPs incorporated the City's and GSWC's existing and planned future water uses for 2025 to 2045. This WSA assumes that Project will be fully built-out by 2029 and was not included in either UWMP.

Per the Project, each development site has a proposed General Plan involving the addition of residential units. These sites have existing infrastructure that is expected to remain in place. Therefore, while it is assumed the UWMP accounted for the existing demand of these locations in its water demand projections, it did not account for the increased water demand resulting from the residential units of the Project. The estimated water demands of these new units must be determined and considered additional to the amounts projected in the UWMP. Using the potential density of residential units, estimated developable area, and water demand duty factors, the build-out water demand for each site was calculated. The total annual Project water demand during years with normal weather is 405 AFY and 435 AFY during a multiply dry year period.

Like the City's 2020 UWMP and GSWC's 2020 UWMP, this WSA assumes a 6% increase and 10% increase in water supply is required during dry years compared to normal years to serve the City's and GSWC's customers, respectively. Therefore, with the 6% increase applied to the City's portion of the Project demand of 266 AF, the additional supply required by the City of Seal Beach during a five-year dry period is estimated to be 282 AF. With a 10% increase applied to GSWC's portion of the Project's demand of 139 AF, the additional supply required by GSWC is 153 AF.

Table ES-1: Project Supply and Demand Comparison

Water Supplier	**Project Water Demand During a Normal Year (AFY)**	**Project Water Demand During a Five-Year Dry Period (AFY)**
City of Seal Beach	266	282
GSWC West Orange Service Area	139	153
Total	**405**	**435**

The projected supply established in the UWMPs from 2025 to 2045 assumed that supply would meet demand during normal, single, and multiple dry year conditions due to both the City's and GSWC's ability to pump groundwater per their annual established Basin Production Percentage (BPP) and by purchasing imported water from Metropolitan Water District of Southern California (MET) water through a connection with the Municipal Water District of Orange County (MWDOC) as needed.

With a five-year dry period, including the demands from the proposed Project, the City's estimated total water demand in 2045 is 3,786 AFY and GSWC's is 17,488 AFY as shown in Table ES-2. According to the annual established BPP and purchases of MET water through MWDOC, reliable supply is available to the City and to GSWC to meet the Project demands.

Table ES-2: Additional Project Demand and Supply Comparison - City of Seal Beach

	2025	2030	2035	2040	2045
Fifth Year					
UWMP Projected Supply (AF)	3,366	3,570	3,543	3,516	3,504
UWMP Projected Demand (AF)	3,366	3,570	3,543	3,516	3,504
Project Water Demand (AF)	0	282	282	282	282
UWMP Projected Demand with Project Demand (AF)	3,366	3,852	3,825	3,798	3,786
Demand Increase	0%	8%	8%	8%	8%

Table ES-2: Additional Project Demand and Supply Comparison - GSWC

	2025	2030	2035	2040	2045
Fifth Year					
UWMP Projected Supply (AF)	15,893	16,330	16,780	17,242	17,335
UWMP Projected Demand (AF)	15,893	16,330	16,780	17,242	3,504
Project Water Demand (AF)	0	153	153	153	153
UWMP Projected Demand with Project Demand (AF)	15,893	16,483	16,933	17,395	17,488
Demand Increase	0%	1%	1%	1%	1%

Abbreviations

AF	Acre-feet
AFY	Acre-feet per year
AMSL	Above Mean Sea Level
Approx	Approximate
BEA	Basin Equity Assessment
BPP	Basin Production Percentage
CEQA	California Environmental Quality Act
cfs	Cubic feet per second
City	City of Seal Beach
CWC	California Water Code
DU	Dwelling unit
DWR	California Department of Water Resources
EIR	Environmental Impact Report
Ex	Existing
GIS	geographic information system
gpcd	Gallons per capita per day
GPD	Gallons per day
HCD	State Department of Housing and Community Development
Master Plan	City of Seal Beach 2012 Water Master Plan Update
MET	Metropolitan Water District of Southern California
MWDOC	Municipal Water District of Orange County
OC Basin	Orange County Groundwater Basin
OCWD	Orange County Water District
ORCC	Old Ranch Country Club
OCSD	Orange County Sanitary District
RA	Replenishment Assessment
RHNA	Regional Housing Needs Assessment
SB	Senate Bill (California)
SCAG	Southern California Association of Governments
SWP	State Water Project
UWMP	City of Seal Beach's Urban Water Management Plan
WSA	Water Supply Assessment
WSAP	Water Supply Allocation Plan

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION AND LOCATION

The City of Seal Beach, California (City, Seal Beach) encompasses approximately 13 square miles and is located at the northwestern edge of Orange County (County), California. It borders the City of Long Beach and Los Angeles County to the north, the Orange County Cities of Huntington Beach and Westminster to the east, Huntington Beach to the south, and the Pacific Ocean to the west, as shown in Figure 1.

The City's Housing Element Update, adopted by the City Council on February 7, 2022, is one of the seven state-mandated elements of a local General Plan and is required to be updated every eight years. In response to comments from the State Department of Housing and Community Development (HCD), the City updated the Housing Element Update on August 24, 2023, and again in March 2024. The most up to date version of the Housing Element Update is from August 2024.

The City is preparing the Housing Element Update to comply with the legal mandate requiring each local government to identify adequate sites for housing to meet the existing and projected housing needs for varying income-levels in the community. It is intended to provide the City with a comprehensive strategy for promoting the production of safe, decent and affordable housing and affirmatively furthering fair housing during the housing cycle. The City's latest Regional Housing Needs Assessment (RHNA) allocation calls for 1,243 new housing units.

According to the Housing Element Update, housing developments that have been proposed but are not expected to receive a certificate of occupancy until after July 1, 2021, yet are anticipated to be completed before the end of the planning period (October 15, 2029), can be credited toward the RHNA. The Old Ranch Country Club (ORCC) Project, which proposes the development of 167 new dwelling units, is currently pending approval. Additionally, seven ADUs are projected to be constructed within the City during the planning period. With the combined total of these projected ADUs and the Old Ranch Country Club Project (174 dwelling units), there are only 1,069 dwelling units of the RHNA allocation that the Housing Element Update must provide.

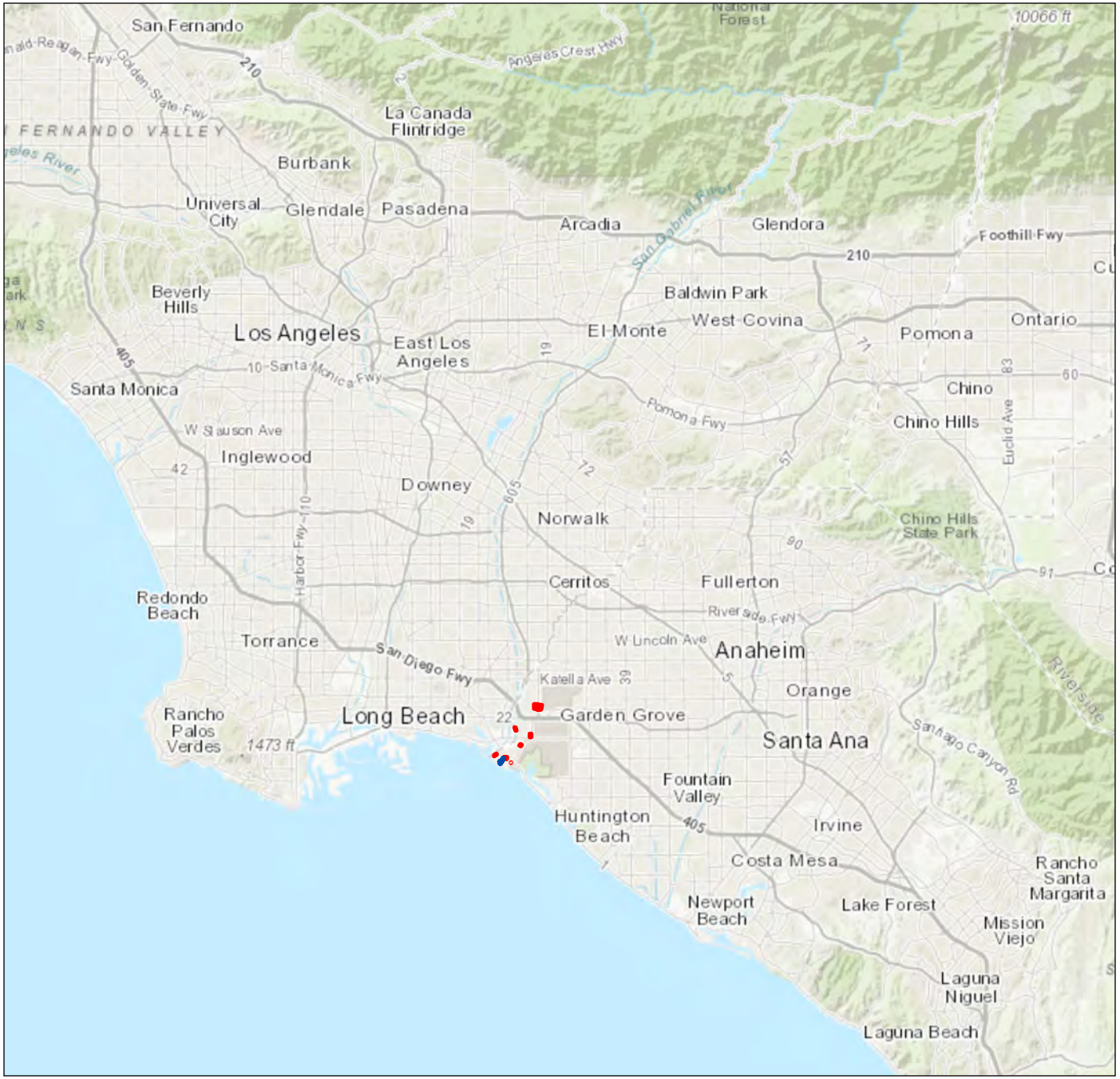
The original Housing Element Update initially identified 13 Housing Opportunity Sites (Sites) throughout the City where existing parcels can be redeveloped for additional housing. However, the number of Sites in the latest Housing Element Update (August 2024) was reduced to eight. Under a conservative development scenario (70%-80% of the maximum allowed dwelling unit density), these eight Sites could provide a total additional 1,165 dwelling units. These Sites include two (2) underutilized sites with 129 dwelling units and six (6) rezone sites for mixed use with 1,036 dwelling units.

With 1,165 dwelling units from the Housing Opportunity Sites and 174 units from projected ADUs and the Old Ranch Country Club Project, the City can count a total of 1,339 units toward its RHNA allocation – exceeding the required 1,243 units and providing an 8% buffer.

Although a maximum buildout scenario cannot be counted in the sites inventory against the City's RHNA, this WSA will analyze this more intense level of development in the following sections to provide the most conservative water demand estimate. Under maximum buildout, the Sites could yield 1,491 dwelling units.

In addition to the eight Sites, the most recent Housing Element Update introduces a “Main Street Program.” This Main Street Program is a revised version of the 'Main Street Specific Plan,” which was originally identified as one of the 13 Sites in the initial Housing Element Update but was removed from the list in the latest version. Rather than the original estimate of 163 dwelling units for the Main Street area, the latest Housing Element Update estimates a more realistic total of 115 units (or 70% of the original projection). The eight Sites and Main Street Program are shown in Figure 2.

With the 1,491 dwelling units from the eight Sites (assuming maximum buildout) and 115 dwelling units from the Main Street Program (assuming 70% of maximum buildout), development from the latest Housing Element Update (the Project) is expected to result in a total of 1,606 dwelling units.



Stantec

Sites

Optional Site for Future Development

N

0 3.5 7 Miles

(At original document size of 8.5x11)
1:500,000

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Data Sources: City of Seal Beach 2024.

3. Background: World Topographic Map: Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS
World Ocean Base: Esri, GEBCO, Garmin, NaturalVue
World Ocean Reference: Esri, GEBCO, Garmin, NGS

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-17
IR by TJ on 2024-10-17

Client/Project 204266500

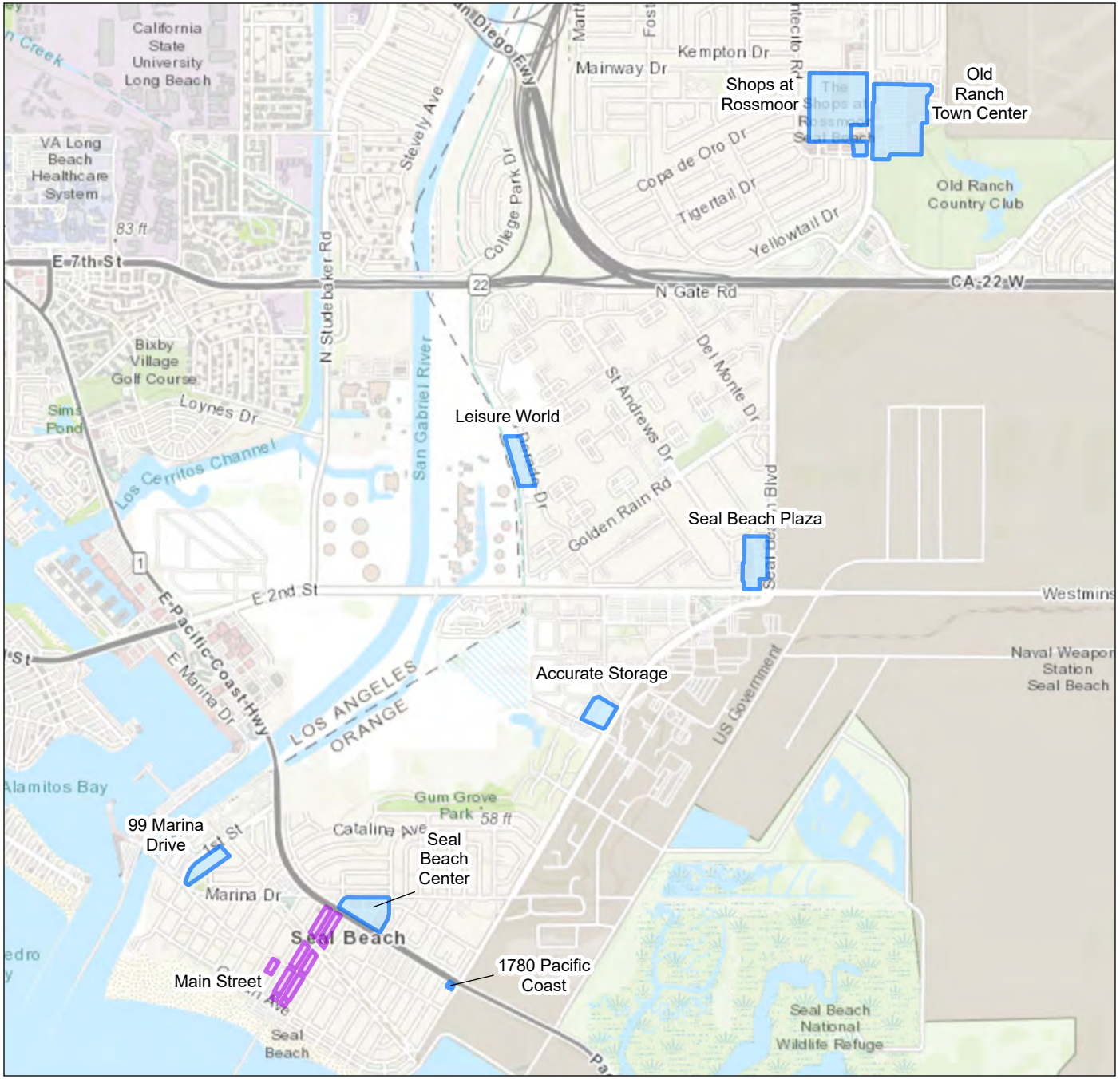
City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
1

Title
Project Vicinity

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-17 By: krielapena

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.



Stantec

Sites

Optional Site for Future Development

N

0 0.2 0.4 Miles

(At original document size of 8.5x11)
1:32,000

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

2. Data Sources: City of Seal Beach 2024.

3. Background: World Ocean Base: Esri, GEBCO, Garmin World Ocean Reference: Esri, GEBCO, NGS World Topographic Map: City of Long Beach, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA, EPA, USDA

Project Location
City of Seal Beach, California

Prepared by KDLP on 2024-10-17
IR by TJ on 2024-10-17

Client/Project 204266500

City of Seal Beach
Housing Element and Zoning Code Updates Project

Figure No.
2

Title
Project Area

V:\1858\Active\204266500_SealBeachHousingElement\03_data\gis_cad\gis\Prn\SealBeach_Oct2024\SealBeach_Oct2024.aprx Revised: 2024-10-17 By: krielapena

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

1.2 WATER SUPPLY ASSESSMENT PURPOSE

The purpose of this Water Supply Assessment (WSA) report is to satisfy Senate Bill 610 (SB610), Water Code Section 10910 et seq., Senate Bill 221 (SB221), Government Code Section 66473, and Senate Bill 1262 (SB1262) that require documentation showing adequate water supplies are or will be available to meet the water demand associated with a proposed Project.

Since the 2020 UWMPs did not include any portions of the Project as part of the City's RHNA, per Water Code Section 10912, the proposed dwelling units from the Project triggers the requirement for a WSA. SB610 and SB1262 stipulate when a project is subject to the California Environmental Quality Act (CEQA), the appropriate water supply agency must provide an assessment on whether its total projected water supplies will meet the projected water demand. The Project is subject to these requirements as it qualifies as "a large commercial, industrial, or mixed-use development" as described in SB610.

SB610 amended the portions of the California Water Code, including the Urban Water Management Plan (UWMP) Act (Section 10631) and described elements of a WSA (Sections 10910, 10911, 10912, 10913, and 10915). SB1262 further amends Water Code 10910 to identify the water system not just in the service area but those adjacent to the project site that could potentially supply water to the project.

In this case, elements of a WSA are consistent with UWMPs by Section 10631 and different in that they are only required as part of the environmental review process for an individually qualifying project. In addition, SB221 requires that approval by a city or county of certain residential subdivisions, as defined by California Government Code Section 66473.7(a)(1), must include an affirmative written verification of sufficient water supplies.

1.2.1 Law: Water Code Section 10910(a)

(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

1.2.2 Law: Water Code Section 10912

For the purpose of this section, the following terms have the following meanings:

(a) "Project" means any of the following:

1. *A proposed residential development of more than 500 dwelling units.*
2. *A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.*
3. *A proposed commercial building employing more than 1,000 persons or having more than 250,000 square feet of floor area.*
4. *A hotel or motel, or both, having more than 500 rooms.*

5. *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.*

6. *A mixed-use project that includes one or more specified in this subdivision.*

7. *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.*

1.3 PROJECT RELATION TO URBAN WATER MANAGEMENT PLAN

The City is a retail water supplier for the Project, except for Site 4 - The Shops at Rossmoor, which will be served by another retail water supplier, Golden State Water Company (GSWC) West Orange. The City prepared a 2020 Urban Water Management Plan (Appendix A), that was adopted by City Council in June 2021. GSWC also prepared a 2020 UWMP for their West Orange Service Area, (Appendix A), which was adopted in July 2021. This WSA relies on the information contained in both 2020 UWMPs and references it in the following supply and demand analysis. Both the City and GSWC meet their demands with a combination of imported water and local groundwater. It is projected that for each year noted in the UWMPs including 2045, the supply will match the projected demand. There is adequate Metropolitan Water District of Southern California (MET) water supply through MWDOC available to both the City and GSWC, should the need arise. It is assumed the Project falls under CWC Section 10910 (c) (3), as no portion of the Project was accounted for either 2020 UWMP.

1.3.1 Law: Water Code Section 10910(c)

(1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code [CEQA], shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

1.4 HOUSING OPPORTUNITY SITE LAND USES

1.4.1 Existing Land Uses

The City's current base zoning and overlay districts, including the General Plan land use designation implemented by zoning designation from Section 3.5 of the UWMP, are provided in Table 1-1 below.

Table 1-1: Current Zoning and General Plan Land Use Designations[1]

Zoning	Abbreviation	General Plan Designation Implemented by Zoning
Base Residential Zoning Districts		
Residential Low Density – 9 [a]	RLD-9	Residential Low Density
Residential Low Density – 15 [a]	RLD-15	Residential Low Density
Residential Medium Density – 18 [b]	RMD-18	Residential Medium Density
Residential High Density – 20 c	RHD-20	Residential High Density
Residential High Density – 33 c	RHD-33	Residential High Density
Residential High Density – 46 c	RHD-46	Residential High Density
Base Mixed-Use, Commercial, and Industrial Districts		
Limited Commercial/Residential Medium Density d	L-C/RMD	Mixed Use
Main Street Specific Plan	MSSP	Main Street Specific Plan
Professional Office	PO	Professional Office
Service Commercial	CS/SC	Service Commercial
General Commercial	GC	General Commercial
Light Manufacturing	LM	Light Manufacturing
Oil Extraction	OE	Oil Extraction
Base Public and Semi-Public Park Districts		
Public and Semi-Public Facilities	PS	Community Facility and School
Recreation/Golf	RG	Open Space – Golf
Base Military, Open Space, and Park Districts		
Military	M	Military

[1] City of Seal Beach, General Plan Zoning Map, 2013; City of Seal Beach Municipal Code and Zoning Ordinance, Chapter 11.1.05.030, 2021

Zoning	Abbreviation	General Plan Designation Implemented by Zoning
Beach	BEA	Beach
Open Space Natural	OS-N	Open Space
Open Space Parks and Recreation	OS-PR	Park
Overlay District and Specific Plan Zone Regulations		
Residential Conservation Overlay	RC-O	All
Planned Unit Development Overlay	PUD/PD	All
Commercial/Park	C/P	All
Coastal Zone	CZ	All
Specific Plan Regulation	SPR	All

Notes:

a Single-unit and small, zero-lot line neighborhoods at a base density up to 9 or 15 dwelling units per net acre.

b Duplexes, townhouse projects, apartments, and small-lot, single-unit residential uses, at a density of 15 to 18 dwelling units per net acre. Additional density may be achieved through density bonuses.

c Multi-unit residential developments at a base density of 20 to 46 dwelling units per net acre. Additional density may be achieved through density bonuses.

d Limited commercial and office uses in conjunction with residential uses.

1.4.2 Proposed Land Uses

As previously mentioned, the Housing Element Update identifies eight Sites throughout the City that have the potential for providing additional housing. The City is nearly built-out with almost no vacant developable land remaining. Therefore, the City must rely primarily on non-vacant sites to increase the City's housing potential. As demonstrated in Table 1-2 and Table 1-3 below, the Sites consists of two categories:

(a) underutilized sites that do not require zoning code changes and
(b) sites where zoning modifications are proposed.

Table 1-2: Underutilized Sites Inventory (Rezoning Not Required)[2]

Site No.	Site Name	Address (APN)	Approx. Acres	Developable Acres	Current General Plan Zoning
1	1780 Pacific Coast Hwy	199-061-01	0.25	0.25	Limited Commercial/ RMD-20
2	Leisure World	095-691-04	5.5	5.5	Residential High Density – Planned Community

[2] City of Seal Beach 2021-2029 Housing Element Update, 2024.

Table 1-3: Rezoned Sites Inventory[3]

Site No.	Site Name	Address (APN)	Approx. Acres	Developable Acres	Current General Plan Zoning	Proposed General Plan Zoning
3	Accurate Storage	095-791-18	4	1.8	RHD-20	MU 46*
4	The Shops at Rossmoor	086-492-51	27	12	GC	MU
5	Old Ranch Town Center	130-861-14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27	26	8.3	GC	MU
6	Seal Beach Plaza	095-641-44, -49, -55, -56, -57	7	1.5	CS-SC	CS/SC and MU-O
7	Seal Beach Center	043-260-02, -05	9	2.7	SC	SC/MU-O
8	99 Marina Drive	199-011-10	4.3	3	OE	RHD/RHD-20

Notes: * The current MU is only associated with LC/RMD. A new mixed-use zoning category would need to be created to facilitate a density equivalent to RHD-46.

Though all Housing Opportunity Sites are within the City of Seal Beach, Site No. 4 – The Shops at Rossmoor is anticipated to be served water by GSWC and not the City of Seal Beach. The remaining seven Housing Opportunity Sites and the Main Street Program are anticipated to be served by the City of Seal Beach.

The Housing Element Update currently includes descriptions for the Housing Opportunity Sites, with an explanation of the methodology for selecting the sites that are currently developed with various uses An in-depth description of each Housing Opportunity Site is provided below (Seal Beach 2022).

Site 1 – 1780 Pacific Coast Highway (No Rezoning)

Location: 1780 Pacific Coast Highway (PCH; Pacific Coast Highway), at the eastern corner of the intersection of Pacific Coast Highway and Seal Beach Boulevard. The site has housing to the rear of it, and retail to the north. Across the street to the south is the Naval Weapons Station, and to the west are single family residential uses.

Size: 0.25 acre

Current Use: retail, specifically a small liquor store and a bait shop.

Current Zoning: Limited Commercial/Residential Medium Density (LC/RMD)

[3] City of Seal Beach 2021-2029 Housing Element Update, 2024.

Reason For Selection: This parcel is developed with an older commercial building currently occupied by a liquor/convenience store. Due to the age and marginal condition of the structure, taken in combination with the value of the land, this site is an excellent and likely candidate for redevelopment with a new residential or mixed-use project. It is immediately adjacent to housing, with excellent access to goods and services.

Assumed Development Capacity: This zoning designation allows residential use at up to 21.8 units/acre. The site can reasonably accommodate ground floor commercial use and parking with four second-story housing units. Because of its maximum allowable density, this parcel has been listed in the moderate-income site inventory.

Site 2 – Leisure World (No Rezoning)

Location: Leisure World is a large, high-density residential senior community generally bound by Westminster Boulevard, Seal Beach Boulevard, Interstate (I)-405, and the Los Alamitos Flood Control Channel. The community currently has 6,608 units. The opportunity site within the development is located along the eastern border, about 0.33 miles from the southwestern corner of the community.

Size: 5.5 acres

Current Use: Recreational vehicle storage

Current Zoning: Residential High Density–Planned Development (RHD-PD)

Reason For Selection: This is an underutilized site in a community that, while not income-restricted, offers very affordable living options, with units selling far below the cost of condominiums elsewhere in the region. For example, a one-bedroom unit may be found for under $300,000 while elsewhere pricing starts in the $500,000 range. More than 75 percent of the population in Leisure World consists of low- to moderate-income households. Additionally, the community is already developed to higher densities, with a few buildings at three stories with parking underneath. Additional units could integrate well into the community and could spread ongoing maintenance and operational costs among a greater number of owners, helping to keep those costs in an affordable range. Furthermore, such development has precedent. The series of three-story buildings referenced, known as Mutual 17, were built in the 1980s, well after the rest of Leisure World was developed, and include 126 2-bedroom, 2-bath condominiums on a little less than five acres. As only one percent of the site is proposed for redevelopment, and adequately sized common areas are present, the existing uses will not impede the anticipated amount of residential development. A development proposal at this site can be approved administratively. No additional zoning revisions are needed.

Assumed Development Capacity: An additional 125 moderate-income units can be accommodated on approximately 5.5 acres presently devoted to recreational vehicle storage at a density of 32.2 units to an acre. New three-story buildings can accommodate parking on the ground level with units above.

Site 3 – Accurate Storage (Rezoning Required)

Location: 1011 Seal Beach Boulevard. This site is bordered by office, commercial and light industrial uses to the north and west, by the City Police Station across Adolfo Lopez Drive to the south, and by the Seal Beach Naval Weapons Station across Seal Beach Boulevard to the east.

Size: 4.4 acres

Current use: Self storage facility

Current zoning: High Density Residential (RHD-20)

Reason for selection: This site was previously selected as a candidate housing site due to underutilized parking, location close to services, and interest from the property owner. There are no known environmental constraints on this property, and the site has good access to employment and transit routes. Due to the high land value and relatively low utilization, there is significant financial incentive for residential development on this property.

Assumed Development Capacity: As the current zoning did not result in redevelopment of this site with residential uses, the development assumptions have been revised. The improvement value to land value is less than 1.0 (0.54), indicating a likelihood for redevelopment, with conversion of the outdoor storage being the most likely to intensify in value. The indoor storage could remain in place and not be an impediment to development due to the site plan and overall quality of development and maintenance of the site. Therefore, it is assumed that only 1.8 acres of the site will redevelop to housing, instead of the entire 4.4 acres. This site is proposed for rezoning to a maximum density of 46 units per acre that will enhance the financial viability of adding residences to the site. Development of 1.8 acres could yield 66 above-moderate units, or more if a density bonus is employed. However, given the need to design around existing buildings, the projected number of units has been reduced to 59. Because the presumed developable area is less than 2 acres, this site uses a conservative estimate of only 10 percent at lower-income and 10 percent at moderate income, despite a proposed density of 46 units per acre.

Site 4 – The Shops at Rossmoor (Rezoning Required)

Location: This multi-address retail center is on the west side of Seal Beach Boulevard between St. Cloud Drive and Rossmoor Center Way.

Size: 27 acres

Current use: Retail center, with uses including Marshalls, Kohl's, Ulta, Sprouts Farmers Market, and Burlington

Current zoning: General Commercial (CG)

Reason for selection: This site was selected due to an abundance of underutilized parking accompanied by owner interest in development of housing units. The site's ratio of improvement value to land value is less than 1.0 (0.85), meaning the site is economically underutilized, despite being a generally successful

retail center. However, with a number of “big box” type tenants subject to changes in the retail landscape, this center is vulnerable to store closures that could result in significant vacant space. A new mixed-use zone would allow for greater flexibility to utilize the land, and by adding housing units, increase the viability of the retail that remains. Additionally, high density residential already exists along the western edge of the retail center, increasing compatibility of the use.

Assumed development capacity: The site is 27 acres, and surface parking occupies approximately 19 acres. It is assumed that approximately 12 acres of surface parking could be developed with housing, at a proposed 46 units per acre, resulting in 441 units, exclusive of a density bonus. Because of the ample development potential and therefore ability to achieve economies of scale, Table projects 276 units at lower-income, 14 units at moderate-income, and 151 at above-moderate-income.

The Shops at Rossmoor is anticipated to be served water by Golden State Water Company (GSWC).

Site 5 – Old Ranch Town Center (Rezoning Required)

Location: This multi-address retail center is on the east side of Seal Beach Boulevard, between the Old Ranch Country Club golf course and Plymouth Drive.

Size: 26 acres

Current use: Retail center including stores such as Target and Ralph’s supermarket.

Current zoning: General Commercial (GC)

Reason for selection: Like the Shops at Rossmoor, the Old Ranch Town Center has a significant amount of underutilized parking, and primarily big box uses. Currently, the former Bed Bath and Beyond store is vacant. The addition of housing to this site is feasible as it is immediately adjacent to goods and services, has excellent access along a major thoroughfare, and can integrate well with the scale of the existing development, bolstering retail uses with on-site residents. The improvement to land value ranges by parcel, with the largest parcel at 0.95 and the second largest parcel at 0.07, demonstrating ripeness for additional development.

Assumed development capacity: It is assumed approximately 8.3 acres of the surface parking lot of the center could be developed or redeveloped with housing uses, creating a mixed-use environment at 46 units per acre, for a total of 306 units. Because of the ample development potential and therefore ability to achieve economies of scale, as well as density over 30 dwelling units per acre, this site estimates 258 units at lower-income and 48 at moderate-income. Due to its proximity to the Joint Forces Training Base, all residential units would be conditioned to meet interior noise level standards of 45 decibels, however, this is not an obstacle to development as this is also the standard in the California Building Code. Housing currently exists to the north and northeast of the site, also adjacent to the Joint Forces Training Base.

Site 6 – Seal Beach Plaza (Rezoning Required)

Location: This multi-address retail center is at the northwest corner of Seal Beach Boulevard and Westminster Boulevard. Two churches and Leisure World are to the north and west, and generally the Naval Weapons Station surrounds the other sides.

Size: 7 acres

Current use: Retail and office/service uses

Current zoning: Service Commercial (SC)

Reason for selection: This site has a low improvement value to land value ratio at 0.72 and has experienced some large tenant turnover in the past, which could indicate a need to reposition the site for long-term success in the future. Like other retail plazas, it is underutilized with large parking areas. The site offers excellent access to goods and services, and augmenting the site with housing would benefit the on-site retailers. The adjacent Leisure World utilizes higher densities, and the Naval Weapons Station is immediately east, and is not a conflicting use.

Assumed development capacity: This site can be redeveloped entirely or partially as a mixed-use project. Assuming that residential uses are developed on 1.5 acres of surface parking at the site at a base density of 46 du/acre, 55 moderate-income units could be accommodated following adoption of a new mixed-use zoning district.

Site 7 – Seal Beach Center (Rezoning Required)

Location: This retail plaza is located on Pacific Coast Highway, between Balboa Drive and Bolsa Avenue. It is directly across Pacific Coast Highway from Main Street, the commercial core of the Old Town area.

Size: 9 acres

Current use: The center consists of two anchor stores, a Pavilions supermarket, and a CVS Pharmacy, along with several smaller retail and restaurant tenant spaces.

Current zoning: Service Commercial (SC)

Reason for selection: This site has an improvement value to land value ratio of 0.72, indicating it is underutilized and could perform to a higher capacity. Its location provides excellent walkability and access to goods and services, including an elementary school. A small mixed-use project could be undertaken using available parking and redeveloping portions of the site with housing above retail. Moreover, the property representatives have expressed an interest in mixed use as a future possibility to increase site utility.

Assumed development capacity: With a mixed-use zoning allowing up to 46 units per acre, and 2.7 acres of surface parking, the capacity would be 99 above-moderate units without using a density bonus.

Site 8 – 99 Marina Drive (Rezoning Required)

Location: 99 Marina Drive, northeast of Marina Drive and First Street intersection.

Size: 4.3 acres

Current use: Vacant. At some point, a handball court was constructed on the western edge of the property and the City maintains a small section of the property around the court primarily for safety reasons as the court is located adjacent to a public park.

Current zoning: Oil Extraction (OE)

Reason for selection: Previously a site that supported oil extraction in the area, the current owners (Exxon and Chevron) are actively marketing the property. Based on inquiries received by City staff from potential buyers, as well as the surrounding residential uses, housing development makes the most sense and is generally expected by the community.

Assumed development capacity: A density of 33 units per acre is proposed at this site to meet the 30-du/ac default density thresholds established under Government Code Section 65583.2(c)(3)(B)). However, this location may have additional development standards imposed by the Coastal Commission, similar to the adjacent development, where a portion of the site was left as open space. Thus, the total housing production expected at the site is 69 units, all of which are assumed to be above moderate, to be extremely conservative.

1.5 PUBLIC WATER SYSTEM DESCRIPTION

1.5.1 Public Water System Infrastructure – City of Seal Beach

The City of Seal Beach 2012 Water Master Plan Update (Master Plan) provided an evaluation of the City's water supply system to develop guidelines for the construction of new and replacement facilities. The objective of this Master Plan was to develop the Capital Improvement Program (CIP) consisting of projects that would enhance, maintain, or replace aging facilities through 2014-2021. In addition, the CIP is considered a planning tool that will allow construction of the recommended projects to improve the water system and meet system performance criteria for existing and future customers. Although the water system was evaluated in 2012, the development of the housing unit proposed project was not part of the analysis. The City does not have a current Master Plan for years after 2020.

Per the 2012 Master Plan and the 2020 UWMP, the City's domestic water system consists of 74.8 miles of transmission and distribution system pipes ranging from 4-inch to 20-inch diameter, two booster pump stations, two forebay reservoirs, four production wells, four disinfection sites, 680 fire hydrants, and 5,350 service connections, one imported water supply connection to purchase water from MET and several emergency connections. There are no direct surface-water or recycled water uses in the City's service area.

The City's water system is in a single closed zone system and system pressure is maintained through the imported water supply connection and the booster pump stations, Bolsa Chica Well and Lampson Avenue Well. The service area is divided into several communities such as Old Town, Bridgeport, Marina Hill, Hellman Ranch, the Boeing and police facilities, City yard, surfside, Leisure World Retirement Community, College Park East and West, Bixby Old Ranch and Old Ranch Golf Course, the Seal Beach National Wildlife Refuge, Sunset Aquatic Park, and the U.S. Naval Weapons Station. City's service area has been stable with an annual average of 3,482-acre feet (AF) for potable use. City's water demands are met through a combination of imported water and local groundwater.

1.5.2 Public Water System Infrastructure – GSWC West Orange Service Area

The GSWC West Orange Services Area covers approximately 15.4 square miles in western Orange County and delivers potable water to approximately 114,000 customers including the Cities of Cyprus, Stanton, Los Alamitos, and small portions to the Cities of Seal Beach, Garden Grove, and La Palma and some adjacent unincorporated county customers. GSWC West Oranges Service Area has 27,643 water service connections.

Per GSWCs 2020 UWMP, the West Orange Service Area's system is comprised of fourteen active groundwater wells with a combined capacity of 11,850 gallons per minute, owned and operated by GSWC. These well sites are disinfected locally with 12.5 percent sodium-hypochlorite injection solution. The groundwater is blended with water purchased from MWDOC. The West Orange Service Area's system has four emergency interconnections to allow sharing of supplies during short term emergencies or planned shutdowns. These interconnections include connections to the City of Garden Grove, the City of Seal Beach, the City of Buena Park, and GWSC's Artesia System.

1.5.3 Public Water System Supply

As mentioned previously, the City of Seal Beach and Golden State Water Company West Orange Service Area use a combination of imported water and groundwater to supply their customers. Each water supply is summarized below:

1.5.3.1 Imported Water

Imported water purchased from MET is supplied to the City by MWDOC via West Orange County Water Board. The connection, OC-35, is located at Springdale Street and Westminster Avenue and is shared with the City of Huntington Beach, who is responsible for managing, maintaining, and operating the facility. The maximum capacity for the City's connection is 9.9 cubic feet per second (cfs). In FY 2019-20, the City relied on approximately 1,132-acre feet per year (AFY) of imported water, 35% of the City's total water supply, to meet its demands.

The City imports an average of 0.5 AF per month from September through June for the purpose of flushing the transmission main of stagnant water. Flushing is performed sporadically when disinfection levels fall below a certain threshold. The City of Huntington Beach monitors the City of Seal Beach's portion of the OC-35 connection and controls conveyance. Historically, the City switches over to import water during the months of July and August. During these two months, the City typically maintains a

flowrate between 3-5 cfs. A flow rate higher than 6 cfs is seldom needed. The only occasions where the flow would be close to the maximum capacity of 9.9 cfs is if there is a large water main break or a fire flow demand.

GSWC also purchases MET water from MWDOC and manages the allocations of the supplies among the Placentia-Yorba Linda and the West Orange Service Areas to meet both service areas needs and reduce costs for their customers. The West Orange Service Area purchased an average of 713 AF over 2016 to 2020, with 2019 and 2020 purchases being less than 75 AF.

GSWC also purchases a small amount of potable water from the City of Seal Beach through its existing connection to the City. In 2020, GSWC purchased 34 AF from the City of Seal Beach.

See Section 3.3.1 for further analysis of imported water sources.

1.5.3.2 Groundwater Production

The City of Seal Beach and GSWC West Orange Service Area pump groundwater from the Orange County Groundwater Basin (OC BASIN). This basin is managed by Orange County Water District (OCWD) and covers an area of approximately 350 square miles and the boundary extends to the Orange County-Los Angeles Line northwest.

The City's water system includes four groundwater wells that include the Bolsa Chica Well, the Beverly Manor Well, the Lampson Avenue Well and the Leisure World Well. As of 2021, Leisure World Well is inactive. Per the City's UWMP, the groundwater volume pumped in 2016-2020 by the City is relatively stable with the highest volume, 2,400 AF, pumped in 2019. In FY2019-20, the City pumped approximately 2,141 AF of groundwater.

GSWC also produces groundwater within the OC BASIN via fourteen active groundwater wells and pumped an average of 17,000 AFY during 2016 to 2020 with the highest volume, 19,031 AFY, being pumped in 2018 (GSWC 2021).

See Section 3.3.2 for an analysis of groundwater water sources.

1.5.3.3 Emergency Connections

The City is authorized to use water through emergency interconnections with the City of Long Beach, the City of Huntington Beach, the City of Westminster, and Golden State Water Company (GSWC) and it does not currently have plans to introduce new exchanges and transfers. Two reservoirs, Navy and Beverly Manor, store 1.10 MG and 2.38 MG for fire suppression and operational needs respectively per the UWMP. The Navy Booster Station is located within the U.S. Naval Weapons Station, east of Seal Beach Boulevard and north of Bolsa Avenue. Beverly Manor Booster Station is located south of the San Diego Freeway and west of Seal Beach Boulevard.

GSWC West Orange Service Area maintains four emergency interties with four agencies and a combined capacity of over 4,500 gpm. These connections are intended to serve as emergency use for system outages, maintenance, or other supply disruption. These supplies are not included in the supply

projections. In addition to the Seal Beach intertie, emergency interties exist with the City of Garden Grove, City of Buena Park, and GSWC Artesia Service Area. As no use was observed in the last 5 years tables are not presented in this WSA.

1.5.3.4 Capital Improvement Projects (CIPs)

Per the City's 2020 UWMP, the City anticipates water demand to remain constant over the next 25 years. The Capital Improvement Program approved by the Fiscal Year 2020-21 Budget includes several projects to improve the City's water supply reliability. These projects include renovations of two of the City's three water supply well facilities, construction of a wellhead treatment plant at the Lampson Well facility, rehabilitation projects at Bolsa Chica and Beverly Manor wells, and a study to replace aging water meters with Advance Metering Infrastructure (AMI), and SCADA Improvements.

Per GSWC's 2020 UWMP, GSWC has established water rates that support their CIP and operation and maintenance costs. No CIPs were reported in the UWMP.

2.0 WATER DEMAND ASSESSMENT

As mentioned in Section 1.2, Senate Bill 610 stipulates when a project is subject to CEQA, then the appropriate water supply agency must provide an assessment on whether its total projected water supplies (determined by the water supply agency's UWMP) will meet the projected water demand. In addition, SB221 requires that approval by a city or county of certain residential subdivisions, as defined by California Government Code Section 66473.7(a)(1), must include an affirmative written verification of sufficient water supplies.

This Water Demand Assessment section estimates the Project water demands in addition to the projected water demands from the 2020 UWMPs to address the above requirements of the CWC.

2.1 CURRENT AND PROJECTED WATER DEMAND

In FY2019-20, the City had a service area population of 24,000 people and an actual consumption rate of 95 gallons per capita per day (GPCD) with a total water consumption of 3,272 AF per the 2020 UWMP. As shown in Table 2-1, this water consumption includes commercial, institutional/governmental, landscape, and losses.

According to the 2020 UWMP, from 2025 to 2045, the City's residential water demand is projected to decrease, while usage by commercial, industrial, and institutional/governmental is projected to increases. Demands for large landscape applications are projected to stay consistent, while the volume of losses is projected to slightly increase (although this holds constant as a percentage of total water use). See Table 2-1 for a summary of the City's current and future population and water demand out to 2045.

Table 2-1: City of Seal Beach Current and Projected Water Demand[4]

		2020	2025	2030	2035	2040	2045
Population Served		**24,000**	**24,110**	**24,527**	**24,652**	**24,554**	**24,357**
Total Water Demand (AF)		**3,272**	**3,175**	**3,368**	**3,342**	**3,317**	**3,306**
	Single/Multi- Family Residential	2,306	2,467	2,442	2,417	2,393	2,382
	Commercial	492	490	663	663	663	663
	Institutional/Governmental	111	111	150	150	150	150
	Landscape	16	24	24	24	24	24
	Losses	347	84	89	89	88	88

Per the City's UWMP, the City's current population is expected to increase by 1.5% over the next 25 years and the total number of dwelling units is expected to increase from 14,064 in 2020 to 14,171 in 2045. The dwelling unit projection in the UWMP did not include the City's RHNA allocation nor the Project.

Per GSWC's 2020 UWMP, GSWC West Orange Service Area's projected population is based on the 2020 estimated population and projected growth from Southern California Association of Governments (SCAG). The projected growth rate for the City of Cyprus was used to project the growth rate for GSWC's West Orange Service Area through 2045. Water demand is expected to grow due to the growth in population. See Table 2-2 for a summary of GSWC's West Orange Service Area projections.

Table 2-2: GSWC Current and Projected Water Demand[5]

		2020	2025	2030	2035	2040	2045
Population Served		**114,235**	**114,750**	**115,267**	**115,787**	**116,308**	**116,833**
Total Water Demand (AF)		**14,173**	14,137	14,527	14,926	15,337	15,759
	Single Residential	6,601	6,493	6,671	6,855	7,044	7,237
	Multi- Family Residential	2,614	2,667	2,740	2,816	2,893	2,973
	Commercial	2,936	3,283	3,374	3,467	3,562	3,660
	Institutional/Governmental	46	59	61	62	64	66
	Landscape	828	810	833	856	879	903
	Losses	1,148	825	848	871	895	920

2.2 PROJECT WATER DEMAND

As previously outlined in Section 1.1, the Project proposes the addition of up to 1,606 residential units across eight Sites and the Main Street Program. These locations have existing infrastructure that is

[4]2020 UWMP, City of Seal Beach, June 2021

[5]2020 UWMP, GSWC West Orange Service Area, July 2021, Table 2-1, 4-5

expected to remain in place. This WSA assumes that while the 2020 UWMPs accounted for the existing demand of these locations in its water demand projections (see Table 2-1), it did not account for the increased water demand resulting from the proposed Project. Therefore, the estimated water demands of these new units must be determined and considered in addition to the amounts projected in the UWMPs.

As previously described in Section 1.1, this WSA will provide a conservative water demand estimate by assuming maximum buildout for the eight Housing Opportunity Sites and 70% of the maximum buildout the Main Street Program. Table 2-3 below summarizes the number of dwelling units of each Project location.

Table 2-3: Summary of Project Potential Dwelling Units

Site No.	Developable Area (Acres)	Maximum Allowed Density	Total DU
Housing Opportunity Sites			**1,491**
1	0.25	21.8	5
2	5.5	32.2	177
3	1.8	46	83
4	12	46	552
5	8.3	46	382
6	1.5	46	69
7	2.7	46	124
8	3	33	99
Other Sites			**115**
Main Street*	10.5	-	115
Total Housing Element Update Sites			**1,606**
*The proposed commercial area and total dwelling units for the Mission Street Program was developed by assuming 70% of the buildout described in the original Housing Element Update			

Water demand for the eight Sites and the Main Street Program was estimated by multiplying the total number of dwelling units by a water demand duty factor that the City has established for the residential land use category. This WSA assumes the duty factor includes landscape irrigation water demand within the factor. The estimated project water demand for the eight Housing Opportunity Sites and the Main Street Program is summarized in Table 2-3 below. The annual Project water demand is 361,350 GPD or 405 AFY, however Site 4 - The Shops at Rossmoor are served by GSWC. See Table 2-3 for a summary of estimated water demand for the Project.

Table 2-4: Estimated Project Water Demand

	Total Residential Units (DU)	Residential Duty Factor (GPD/DU)	Water Demand (GPD)	(AFY)
Served by City	1,054	225	237,150	266
Served by GSWC	552	225	124,200	139
Total	**1,606**	**225**	**361,350**	**405**

2.2.1 Construction Water Demand

Project construction will require water for dust control and other general construction activities. During construction, water is assumed to be provided from existing fire hydrants adjacent to the project sites following the City's and GSWC's procedures. It is assumed grading will take place to move around soil for the redevelopment of the sites. However, there is no estimate for the earthwork at each site and therefore construction water could not be estimated at this time and is not accounted for in this WSA.

3.0 WATER SUPPLY ASSESSMENT

3.1 WATER SUPPLY ASSESSMENT REQUIREMENTS

In accordance with CWC Section 10910 (d), Section 3 of this WSA identifies the sources of potable water that are available to the Project. The purpose of this section is to evaluate if the water supplies during normal, dry, and multiple-dry water years over a twenty-year period (2025-2045) are adequate to meet the projected demands established in both of the 2020 UWMPs.

Because groundwater is a source of supply for the City of Seal Beach and GSWC (and in turn for the proposed Project), SB610 requires specific groundwater information to be included in the WSA. In accordance with CWC Section 10910 (f), this section will also provide a detailed description of the local groundwater basin.

3.1.1 Law: Water Code Section 10910(d)

1): The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county, if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

3.1.2 Law: Water Code Section 10910(f)

If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as over drafted or has projected that the basin will become over drafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

3.2 DEMAND REDUCTION

The Water Conservation Act of 2009 (also known as Senate Bill X7-7 or SB X7-7) was a California state law that required the state to reduce urban water consumption by 20% by the year 2020.

According to the City's 2020 UWMP, the City complied with the SB X7-7 Compliance Option 3 requirements by achieving 95% of the applicable state hydrologic region target as set forth in the State's 20x2020 Water Conservation Plan. In addition, the City was able to achieve at least a 5% decrease in water usage compared to the average of the previous five years. The City's actual 2020 GPCD was 95 which is below the 2020 target of 142 GPCD which complies with SB X7-7.

The City and GSWC are members of the Orange County 20x2020 Regional Alliance, which was formed by MWDOC and consists of 29 retail agencies. The City benefits from MWDOC's assistance in calculating baseline water use and water use targets.

GSWC West Orange Service Area compliance target was established as 141 GPCD per the selected SB X7-7 Compliance Option 3. In 2020, GSWC was able to meet the compliance requirements by achieving 111 GPCD which equates to a 21% reduction from the compliance target.

3.3 WATER PROJECTED SUPPLY

As mentioned previously in Section 1.5, the City and GSWC obtains their water supply from a combination of imported water and groundwater from the OC Basin. According to the UWMPs, it is projected that by 2045, the City's and GSWC's water supply portfolios will compose of 85% groundwater and 15% imported water (Table 3-1).

Table 3-1: City's Projected Water Supply Portfolio[6]

	Source	Potable Water Supply (AF)				
		2025	2030	2035	2040	2045
Groundwater	OC Basin	2,699	2,862	2,841	2,820	2,810
Imported Water	MWDOC	476	505	501	498	496
Total Water Supply		**3,175**	**3,367**	**3,342**	**3,318**	**3,306**

Per GSWC 2020 UWMP, it is assumed that supply will meet demand and GSWC will only acquire water supply to meet the specific demands of any given year. The following table shows the supply that is available to GSWC West Orange Service Area regardless of demand.

Table 3-2: GSWC Projected Available Water Supply Portfolio[7]

	Source	Potable Water Supply (AF)				
		2025	2030	2035	2040	2045
Groundwater	OC Basin	19,800	20,210	20,630	21,602	21,505
Imported Water	MWDOC	2,100	2,100	2,100	2,100	2,100
Imported Water	City of Seal Beach	40	40	40	40	40

[6] 2020 UWMP, City of Seal Beach, June 2021, Table 6-2

[7] 2020 UWMP, GSWC West Orange Service Area, July 2021, Table 3-3, 3-6, 3-9, 3-15

Total Water Supply	21,940	22,350	22,770	23,202	23,645

3.3.1 Imported Water

The City of Seal Beach and GSWC West Orange Service Area purchase water from MWDOC. MWDOC is a MET member agency and MET's supply projections consider the imported demands from Orange County, including demands from the City of Seal Beach. Per MWDOC's 2020 UWMP, approximately 427,000 AF of imported water was used by MWDOC's customers with 143,000 AF being used for retail water sales including the City of Seal Beach. MWDOC's expects the average retail water sales to be approximately 126,000 AFY out to 2045. The water from MET includes water from the Colorado River and the State Water Project (SWP) as Table A water, managed by MET. Both water supplies are treated at the Robert B. Diemer Filtration Plant located in Yorba Linda, CA and delivered to MWDOC and multiple other agencies throughout Southern California.

Per the 2020 UWMP for MET, the Colorado River supply faces current and future imbalances between water supply and demand conditions due to long term drought and climate change. MET has helped fund and implement various programs to improve the Colorado River supply reliability including developing future transfer programs and recycling water in the Colorado River Basin.

Similarly, the SWP faces many challenges concerning its long-term sustainability due to climate change. As of 2020, water deliveries are approximately 60% of the maximum Table A contract entitlements (DWR, 2020b). Per the UWMP, water exports since 2005 have seen a decreasing trend due to regulatory restrictions among others. It should be noted that there are multiple factors that can affect the ability to estimate existing and future water delivery reliability.

Water storage plays a significant role in MET's resource management strategy. MET's capability to meet projected demands, without implementing its Water Supply Allocation Plan (WSAP), is dependent on its storage resources. In recent years, groundwater basins and local reservoirs have dropped to low operating levels and remain below optimal storage levels due to long term drought conditions. (MET, 2021). To increase the reliability of water supplies MET continues to invest in flexible storage, transfer programs including groundwater storage, recycling water, water conservation, and pursuing long-term solutions for the ecosystem, regulatory and water supply issues related to the SWP (MET, 2021). MET's water reliability assessments are used to determine that demands within MWDOC can be met during normal and drought conditions.

3.3.1.1 City of Seal Beach

The City's imported water supplies are delivered via a connection (OC-35) to MWDOC, which delivers water from MET. The maximum capacity for the OC-35 connection to the City is 9.9 cubic feet per second (cfs). Outside of flushing the system, a flow rate higher than 6 cfs is seldom needed. The only occasions where the flow would be close to the maximum capacity of 9.9 cfs is if there is a large water main break or a fire flow demand. As there is no allocation contract known at this time, the City can theoretically purchase up to 7,170 AFY to meet its demands, though this may be unlikely as water purchased through

MWDOC is estimated during the prior year based on estimated demands and considering the supply by groundwater sources for that year. In FY 2019-20, the City relied on approximately 1,132-acre feet per year (AFY) of imported water, 35% of the City's total water supply, to meet its demands and projected demand in the UWMP showed a nominal increase through 2045.

3.3.1.2 GSWC West Orange Service Area

According to GSWC's 2020 UWMP, GSWC also purchases MET water from MWDOC and manages the allocations of the supplies among the Placentia-Yorba Linda and the West Orange Service Areas to meet both service areas needs and reduce costs for their customers. The West Orange Service Area purchased an average of 713 AF over 2016 to 2020, with 2019 and 2020 purchases being less than 75 AF. GSWC also purchases a small amount of potable water from the City of Seal Beach through its existing connection to the City. In 2020, GSWC purchased 34 AF from the City of Seal Beach.

3.3.2 Groundwater Analysis

The Orange County Groundwater Basin (OC Basin) is managed by Orange County Water District (OCWD) and covers an area of approximately 350 square miles and the boundary extends to the Orange County-Los Angeles Line northwest. There are three major aquifer systems hydraulically connected, the Shallow Aquifer, the Principal Aquifer, and the Deep Aquifer. Groundwater can flow between each system through intervening aquitards. Over 90% of groundwater production is pumped from wells connected within the Principal Aquifer system occurring at depths between 200 and 1,300 ft below ground surface.

In 2014, the State of California adopted the Sustainable Groundwater Management Act (SGMA) to support and manage its groundwater sustainably and mitigate significant low groundwater levels, land subsidence, and water quality issues. SGMA requires all high- and medium-priority basins, as designated by DWR, to be sustainably managed. DWR designated the non-adjudicated Coastal Plain of OC Basin ("Basin 8-1" or "Basin") as a medium-priority basin, primarily due to heavy reliance on the Basin's groundwater as a source of water supply. To comply with the SGMA, the agencies within Basin 8-1, led by OCWD submitted an Alternative to a Ground Water Sustainability Agency (GSP) in 2017, titled the "Basin 8-1 Alternative". This alternative will be updated every five years.

According to the Basin 8-1 Alternative, OCWD monitors the basin by collecting groundwater elevation and quality data from over 2000 wells and facilities. This includes managing an electronic database that stores water elevation, water quality, and production data. As part of their Groundwater Reliability Plan, the groundwater levels are managed within a safe operating range to mitigate land subsidence, provide sustainability to the basin, and reduce the risk of overdraft. It is estimated that the basin has a total capacity of 66 million AF with an operating range of 500,000 AF below full condition. The operating range is established as the level of groundwater storage within the aquifer that can be maintained without causing adverse impact to the basin. The groundwater basin is not operated on an annual safe-yield basis but over a period of several years. The net change in the groundwater storage in any given year may be positive or negative depending on multiple factors and the basin level is maintained in an approximate balance. The OC groundwater basin is recharged through various means including natural water ways, such as the Santa Ana River and various creeks, recycled water from Los Angeles County

Department of Public Works (LADWP), imported water from MET, and the Groundwater Replenishment System (GWRS). As part of the GWRS, through partnership with Orange County Sanitation District (OCSD), OCWD manages a water recycling plant that provides up to 100 million gallons per day of advanced tertiary treated wastewater to supply recharge water and a seawater intrusion barrier within the OC BASIN.

There are nineteen major groundwater producers that pump from the OC Basin. This includes the City of Seal Beach and GSWC West Orange. The groundwater producers meet on a monthly basis with OCWD to consult with and provide advice on basin management issues and meet bi-annually to establish a Replenishment Assessment (RA). The RA is based on demands estimated from the previous year and the amount of groundwater that has been pump during the year. Demands from groundwater producers in the past, specifically 1996-1997, have been as high as 515,000 AFY, but have generally decreased to approximately 364,000 AF in 2015-2016. This general decrease is expected to continue due to conservation efforts and implementation of water efficient fixtures. Per the 2020 UWMP, pumping in 2019-2020 was 286,550 AF due to wells being turned off from PFAS impacts. OCWD expects total groundwater production within the OC Basin to average 320,000 AFY moving forward.

The OC Basin is not adjudicated; therefore, management includes financial incentives to encourage sustainable pumping for groundwater producers. OCWD does not directly limit pumping from the OC Basin but assesses the basin annually and sets a Basin Production Percentage (BPP) based on estimated demands from all groundwater producers, the amount of imported water available from MET, the estimated basin operating range, basin storage conditions, the amount of recharge water available to OCWD, and other factors. OCWD establishes the BPP uniformly for all producers, which is defined as the percentage of the groundwater producer's total water supply that comes from groundwater. Groundwater producers meet bi-annually with OCWD to establish a RA based on demands estimated from the previous year and the amount of groundwater that has been pump during the year. While there is no legal limit as to how much a groundwater producer pumps from this basin, agencies that pump above the established BPP are charged a RA fee plus a Basin Equity Assessment (BEA) fee. OCWD forecasts that the basin will be able to sustain a BPP of 85% beyond 2025 to meet demands from groundwater producers. Since the BPP is established annually by OCWD's assessment of the OC Basin, the BPP is subject to change. For this WSA, the BPP is assumed to be held at 85% through 2045.

Another tool that OCWD uses to sustainably manage the OC Basin is the Basin Production Limitation through Section 31.5(g)(7) of the OCWD Act. This act allows OCWD to set limitations on groundwater production and induce surcharges if the limits are exceeded. This management tool can be used when necessary to shift pumping from one area of the basin to another. A specific example of this is the Coastal Pumping Transfer Program, which shifts pumping from the coastal areas to inland areas to minimize seawater intrusion as necessary.

Per the City's 2020 UWMP, the groundwater volume pumped in 2016-2020 by the City is relatively stable with the highest volume, 2,400 AF, pumped in 2019. In FY2019-20, the City pumped approximately 2,141 AF of groundwater.

Per GSWC West Orange's 2020 UWMP, GSWC pump 17,686 AF to allocate between its Placentia-Yorba Linda, West Orange, and Cowan Heights Service Areas.

3.3.3 Emergency Connections

As discussed in Section 1.5.1.3, the City has emergency interconnections with the Cities of Westminster, Long Beach, and Huntington Beach as well as Golden State Water Company that can be used to supplement water supply in special cases.

GSWC West Orange has emergency interconnections between the City of Garden Grove, City of Buena Park, GSWC Artesia Service Area, and the City of Seal Beach as mentioned.

This water will not be included in this WSA's analysis of water supply as it is beyond normal operations of each of the water systems.

3.4 WATER SUPPLY DURING NORMAL, SINGLE DRY-YEAR, AND MULTIPLE DRY-YEARS

Per the City's and GSWC West Orange's 2020 UWMPs, their Drought Risk Assessment (DRA) states that the water supplies available to each retail water supplier will meet projected water demand for normal, single-dry year, and consecutive dry years. The City and GSWC have the ability to purchase water as needed to meet the increasing demands during these periods as discussed further below.

3.4.1 Normal Water Year

The prediction model developed for the Demand Forecast TM described in the City's 2020 UWMP projects the 25-year water demand for the Orange County water agencies. Through this statistical model, current and future climate conditions (such as temperature, precipitation, drought, and conservation measures) are analyzed to show impacts on water demand. The model predicts the water supply availability and demand of a normal water year by using average demand conditions from FY2017-18 and FY2018-2019. The model showed that there is an adequate supply to meet demands through 2045 for the City.

Table 3-2 summarizes the model projections below.

Table 3-3: City Water Supply Availability & Demand Projections Normal Water Year[8]

Normal Year Supply and Demand Comparison					
	2025	**2030**	**2035**	**2040**	**2045**
Population					
Water Service Area Population	24,110	24,527	24,652	24,554	24,357
Calculated Consumption Rate (GPCD)	118	123	121	121	121

[8] 2020 UWMP, City of Seal Beach, June 2021, Table 7-2

Supply					
Total Available Supply (AF)	3,175	3,368	3,342	3,317	3,306
Demand					
Total Estimated Demand (AF)	3,175	3,368	3,342	3,317	3,306
Supply/Demand Comparison					
Supply vs. Demand Difference	0	0	0	0	0

Per GSWC's 2020 UWMP, the West Orange Service Area will be able to meet the demand projections out to 2045 based on the supply available to GSWC. Though GSWC anticipates an available supply beyond what is required, GSWC will only acquire a water supply to meet the specific demands of any given year. The following table shows the supply that is required to GSWC West Orange Service Area to meet demand.

Table 3-4: GSWC Water Supply Availability & Demand Projections Normal Water Year[9]

Normal Year Supply and Demand Comparison					
	2025	**2030**	**2035**	**2040**	**2045**
Population					
Water Service Area Population	114,750	115,267	115,787	116,308	116,833
Calculated Consumption Rate (GPCD)	110	113	115	118	120
Total Available Supply (AF)	14,137	14,527	14,926	15,337	15,759
Total Estimated Demand (AF)	14,137	14,527	14,926	15,337	15,759
Supply/Demand Comparison					
Supply vs. Demand Difference	0	0	0	0	0

3.4.2 Single Dry Water Year

Per the 2020 UWMP, the City defines the single dry year condition as a single year of minimum to no rainfall within a period where average precipitation is expected based on demands from FY2013-14. The forecasting model reflects the impacts of hot/dry weather conditions using a 6% increase in water demand from the normal year condition in City's service area. The model concludes that there is an adequate supply to meet growing demand conditions, for the FY2013-14 single dry year, out to 2045.

Table 3-5 summarizes the model projections for a single-dry year below.

[9] 2020 UWMP, GSWC West Orange Service Area, July 2021, Table 5-2

Table 3-5: City Water Supply Availability & Demand Projections Single Dry Year[10]

Single Dry Year Supply and Demand Comparison					
	2025	**2030**	**2035**	**2040**	**2045**
Population					
Water Service Area Population	24,110	24,527	24,652	24,554	24,357
Calculated Consumption Rate (GPCD)	118	123	121	121	121
Supply					
Total Available Supply (AF)	3,366	3,570	3,543	3,516	3,504
Demand					
Total Estimated Demand (AF)	3,366	3,570	3,543	3,516	3,504
Supply/Demand Comparison					
Supply vs. Demand Difference	0	0	0	0	0

The expected water uses during a single-dry year for GWSC's West Orange Service Area were estimated based on analyzing plausible hydrological variability, regulatory variability, climate conditions, and other factors that impact the water supply to GSWC West Orange and its customers' water uses. The drought effect assumes a 10% increase in demand in the West Orange Service Area. Though GSWC anticipates an available supply beyond what is required, GSWC will only acquire a water supply to meet the specific demands of any given year.

Table 3-6 summarizes the projections for a single-dry year below.

Table 3-6: GSWC Water Supply Availability & Demand Projections Single Dry Year[11]

Single Dry Year Supply and Demand Comparison					
	2025	**2030**	**2035**	**2040**	**2045**
Population					
Water Service Area Population	114,750	115,267	115,787	116,308	116,833
Calculated Consumption Rate (GPCD)	121	124	127	129	132
Total Available Supply (AF)	15,551	15,979	16,419	16,871	17,335
Total Estimated Demand (AF)	15,551	15,979	16,419	16,871	17,335
Supply/Demand Comparison					
Supply vs. Demand Difference	0	0	0	0	0

[10] 2020 UWMP, City of Seal Beach, June 2021, Table 7-3

[11] 2020 UWMP, GSWC West Orange Service Area, July 2021, Table 5-2

3.4.3 Multiple Consecutive Dry Water Years

Multiple dry water years, as defined in the UWMPs, is five or more consecutive dry years with below average precipitation and/or one that requires a reduction of water service to customers.

For the City, the multiple dry years assumed that there is five consecutive dry years resulting in a 6% increase over normal demands above average supply for the consecutive 5-year period of 2012 to 2016. The model concludes that there is adequate supply to meet growing demand conditions for a multiple-dry year scenario out to 2045.

Table 3-7 summarizes the model projections for multiple-dry years below.

Table 3-7: City Water Supply Availability & Demand Projections Multiple Dry Years (2025-2045)[12]

Multiple Dry Years Supply and Demand Comparison					
	2025	**2030**	**2035**	**2040**	**2045**
Population					
Water Service Area Population	24,110	24,527	24,652	24,554	24,357
Calculated Consumption Rate (GPCD)	118	123	121	121	121
First Year					
Total Available Supply (AF)	3,448	3,407	3,564	3,538	3,514
Total Estimated Demand (AF)	3,448	3,407	3,564	3,538	3,514
Available Leftover Supply Capacity	0	0	0	0	0
Second Year					
Total Available Supply (AF)	3,428	3,447	3,559	3,532	3,511
Total Estimated Demand (AF)	3,428	3,447	3,559	3,532	3,511
Available Leftover Supply Capacity	0	0	0	0	0
Third Year					
Total Available Supply (AF)	3,407	3,488	3,554	3,527	3,509
Total Estimated Demand (AF)	3,407	3,488	3,554	3,527	3,509
Available Leftover Supply Capacity	0	0	0	0	0
Fourth Year					
Total Available Supply (AF)	3,386	3,529	3,548	3,521	3,507
Total Estimated Demand (AF)	3,386	3,529	3,548	3,521	3,507
Available Leftover Supply Capacity	0	0	0	0	0
Fifth Year					
Total Available Supply (AF)	3,366	3,570	3,543	3,516	3,504
Total Estimated Demand (AF)	3,366	3,570	3,543	3,516	3,504

[12] 2020 UWMP, City of Seal Beach, June 2021, Table 7.4

Multiple Dry Years Supply and Demand Comparison					
Available Leftover Supply Capacity	0	0	0	0	0

Per Section 8 of the 2020 UWMP, the City water shortage contingency planning efforts involve a comprehensive supply shortage response that includes demand reduction measures and supply augmentation actions. The City and its wholesale supplier, MWDOC, will periodically revisit its representation of the supply sources and of the gross water use estimations as well as revise the Drought Risk Assessment as needed.

For the GSWC West Orange Service area, the multiple dry years assumed that there is five consecutive dry years resulting in a10% increase over normal demands. The analysis within GSWC's 2020 UWMP concludes that there is adequate supply to meet growing demand conditions for a multiple-dry year scenario out to 2045.

Table 3-8 summarizes the model projections for multiple-dry years below.

Table 3-8: GSWC Water Supply Availability & Demand Projections Multiple Dry Years (2025-2045)[13]

Multiple Dry Years Supply and Demand Comparison					
	2025	**2030**	**2035**	**2040**	**2045**
Population					
Water Service Area Population	114750	115267	115787	116308	116833
Calculated Consumption Rate (GPCD)	124	126	129	132	132
First Year					
Total Available Supply (AF)	15,551	15,979	16,419	16,871	17,335
Total Estimated Demand (AF)	15,551	15,979	16,419	16,871	17,335
Available Leftover Supply Capacity	0	0	0	0	0
Second Year					
Total Available Supply (AF)	15,636	16,066	16,509	16,963	17,335
Total Estimated Demand (AF)	15,636	16,066	16,509	16,963	17,335
Available Leftover Supply Capacity	0	0	0	0	0
Third Year					
Total Available Supply (AF)	15,721	16,154	16,598	17,055	17,335
Total Estimated Demand (AF)	15,721	16,154	16,598	17,055	17,335
Available Leftover Supply Capacity	0	0	0	0	0
Fourth Year					
Total Available Supply (AF)	15,807	16,242	16,689	17,148	17,335

[13] 2020 UWMP, GSWC West Orange Service Area, July 2021, Table 5-3

Multiple Dry Years Supply and Demand Comparison					
Total Estimated Demand (AF)	15,807	16,242	16,689	17,148	17,335
Available Leftover Supply Capacity	0	0	0	0	0
Fifth Year					
Total Available Supply (AF)	15,893	16,330	16,780	17,242	17,335
Total Estimated Demand (AF)	15,893	16,330	16,780	17,242	17,335
Available Leftover Supply Capacity	0	0	0	0	0

GSWC's analysis demonstrates that it has reliable supplies to meet its customer demands in normal, single dry years, and five consecutive dry year conditions through 2045. Groundwater and imported water from MWDOC are resilient during dry conditions and can reliably meet the West Orange Service Area demand.

3.5 WATER SUPPLY AND ADDITIONAL DEMAND COMPARISON

According to the 2020 UWMPs for both the City and GSWC West Orange Service Area, the projected supply during any normal, single dry, or multiple consecutive dry water years out to 2045 will be adequate to meet the demands. However, these projections do not account for the demands associated with the Project.

As previously discussed in Section 2.2, at full build-out, the total Project is estimated to require 405 AFY above the projected demands established in the 2020 UWMPs. Given that this WSA assumes the Project will be fully built-out with new appliances in 2029, future improvements in fixture efficiency have not been factored into the demand estimates. As a result, this WSA assumes the Project's demand of 405 AFY will remain constant from 2029 through 2045. This is unlike the UWMPs, which assumes residential water use may decrease over time due to continued improvements in water-use efficiency.

This WSA evaluates the percentage increase in the City's and GSWC West Orange's total water demand over a 25-year period due to the Project, comparing the impact during a normal year and during the largest demands from the five-year period of multiple dry years as a worst-case scenario.

Based on the estimated additional water required for the City's portion of the Project, an approximate 8% increase in supply is required to meet these demands. Based on the estimated additional water required for GSWC's portion of the Project (Site 4 – The Shops at Rossmoor), an approximate 1% increase in supply to GSWC is required to meet these demands. See Table 3-9 and Table 3-10 for a summary of supply versus demand normal years for both the City and GSWC.

$$\frac{City\ Projected\ Demand\ with\ Additional\ Project\ Demand\ -\ Projected\ Demand\ 2020\ UWMP}{Projected\ Demand\ 2020\ UWMP} * 100\%$$

$$\frac{3{,}634\ AF\ -\ 3{,}368\ AF}{3{,}368\ AF} * 100\% = 8\%$$

Table 3-9: City's Normal Year + Additional Project Demand and Supply Comparison

Water Sources	2025	2030	2035	2040	2045
Projected Supply 2020 UWMP (AF)	3,175	3,368	3,342	3,317	3,306
Projected Demand 2020 UWMP (AF)	3,175	3,368	3,342	3,317	3,306
Project Demand (AF) minus Site 4	0	266	266	266	266
Projected Demand 2020 UWMP + Project Demand (AF)	3,175	3,634	3,608	3,583	3,572
Demand Increase	0%	8%	8%	8%	8%
Additional Supply Required	**0**	266	266	266	266

$$\frac{GSWC\ Projected\ Demand\ with\ Additional\ Project\ Demand - \ Projected\ Demand\ 2020\ UWMP}{Projected\ Demand\ 2020\ UWMP} * 100\%$$

$$\frac{15{,}898\ AF - \ 15{,}759\ AF}{15{,}759\ AF} * 100\% = 1\%$$

Table 3-10: GSWC's Normal Year + Additional Project Demand and Supply Comparison

Water Sources	2025	2030	2035	2040	2045
Projected Supply 2020 UWMP (AF)	14,137	14,527	14,926	15,337	15,759
Projected Demand 2020 UWMP (AF)	14,137	14,527	14,926	15,337	15,759
Site-4 Project Demand (AF)	0	139	139	139	139
Projected Demand 2020 UWMP + Project Demand (AF)	14,137	14,666	15,065	15,476	15,898
Demand Increase	0%	1%	1%	1%	1%
Additional Supply Required	0	139	139	139	139

In accordance with the City's 2020 UWMP, this WSA assumes a 6% increase in water supply is required during dry years compared to normal years for the City's portion of the Project. Therefore, with the 6% increase applied to the City's portion of the Project demand of 266 AF, the total Project supply of 282 AF would be required during multiple dry years.

Table 3-11: City's Most Severe Demands of Multiple-dry Year + Additional Project Demand and Supply Comparison

	2025	2030	2035	2040	2045
Fifth Year					
Projected Supply 2020 UWMP (AF)	3,366	3,570	3,543	3,516	3,504
Projected Demand 2020 UWMP (AF)	3,366	3,570	3,543	3,516	3,504
Project Demand (AF)	0	282	282	282	282

	2025	2030	2035	2040	2045
Projected Demand 2020 UWMP + Project Demand (AF)	3,366	3,852	3,825	3,798	3,786
Demand Increase	0%	8%	8%	8%	8%
Additional Supply Required	0	282	282	282	282

Like GSWC's 2020 UWMP, this WSA assumes a 10% increase in water supply is required during dry years compared to normal years for GSWC's portion of the Project. Therefore, with the 10% increase applied to GSWC's portion of the Project demand of 139 AF, the total Project supply of 153 AF would be required during multiple dry years.

Table 3-12: GSWC's Most Severe Demands of Multiple-dry Year + Additional Project Demand and Supply Comparison

	2025	2030	2035	2040	2045
Fifth Year					
Projected Supply 2020 UWMP (AF)	15,893	16,330	16,780	17,242	17,335
Projected Demand 2020 UWMP (AF)	15,893	16,330	16,780	17,242	17,335
Project Demand (AF)	0	153	153	153	153
Projected Demand 2020 UWMP + Project Demand (AF)	15,893	16,483	16,933	17,395	17,488
Demand Increase	0%	0%	1%	1%	1%
Additional Supply Required	**0**	153	153	153	153

As mentioned previously, the BPP is established based on estimated demands within the basin and is subject to change on an annual basis. The BPP for groundwater production in this WSA is set at 85% based on the assumptions stated in the 2020 UWMPs. Based on this assumption, the City and GSWC will need to purchase 15% of its water supply over the next 25 years to meet demand.

Based on the BPP of 85% For the City, a 6% increase in the City's portion of the Project demands or 282 AF would require ground water pumping of 240 AF and purchasing of 42 AF from imported sources. This represents approximately a 0.07% increase of groundwater production over the estimated average within the OC Basin and a 0.04% increase over the estimated average water purchased for retail sales. See Table 3-7 for a summary of the City's projected water supply portfolio with the increased demand from the Project, assuming the City's BPP remains at 85%.

Table 3-13 City's Supply Source Comparison - 85% BPP

	2025	2030	2035	2040	2045
Projected Demand 2020 UWMP + Project Demand (AF)	3,175	3,634	3,608	3,583	3,572
Groundwater Supply with 85% BPP (AF)	2,699	3,089	3,067	3,046	3,036
Purchased or Imported Water Supply (AF)	476	545	541	537	536

Additional Supply Required	0	0	0	0	0
Note: BPP is defined as the ratio of the City's groundwater supplies to total potable water supplies.					

For the West Orange Service Area of GSWC, a 10% increase in Site 4 – The Shops at Rossmoor, or 153 AF during multiple dry years, would require ground water pumping of 130 AF and purchasing of 23 AF from imported sources. This represents approximately a 0.03% increase of groundwater production over the estimated average within the OC Basin and a 0.02% increase over the estimated average water purchased for retail sales. It should be noted that GSWC anticipates an apple supply available compared to the demand projections. In 2045, 153 AF represents a 0.7% of the 23,605 AF that is expected to be available to GSWC West Orange's portfolio.

See Table 3-7 for a summary of the City's projected water supply portfolio with the increased demand from the Project, assuming the City's BPP remains at 85%.

Table 3-14 GSWC's Supply Source Comparison - 85% BPP

	2025	2030	2035	2040	2045
Projected Demand 2020 UWMP + Project Demand (AF)	14,137	14,666	15,065	15,476	15,898
Groundwater Supply with 85% BPP (AF)	12,016	12,466	12,805	13,155	13,513
Purchased or Imported Water Supply (AF)	2,121	2,200	2,260	2,321	2,385
Additional Supply Required	0	0	0	0	0
Note: BPP is defined as the ratio of the City's groundwater supplies to total potable water supplies.					

The total demand from the Project during normal years, 405 AFY, represent approximately a 0.1% increase in groundwater production over the estimated average within the OC Basin and a 0.05% increase over the estimated average water purchased for retail sales. Based on this and resiliency of the supply sources, OC Basin and MWDOC, the demands associated with the project can reliably be met.

To meet the full additional Project demand without increasing the amount of imported water beyond the annual volume described in the UWMP's projection (see Table 3-1), each retail water supplier may have to increase their groundwater production or obtain additional sources of water. However, pumping beyond the established BPP may result in incurred costs associated with RA and BEA.

4.0 CONCLUSION

The purpose of this WSA is to analyze whether the City's total projected water supplies established in the 2020 UWMP during normal, single dry, and multiple consecutive dry water years are adequate to meet the projected water demands from the 2020 UWMP in addition to the water demand associated with the Project.

The Project is assumed to be fully built-out by 2029. The calculated demand for the Project (eight Housing Opportunity Sites and the Main Street Program) is 405 AFY during a normal year and 429 AFY

during a five-year dry period and has been added to the projected demands through 2045. Imported MET water purchases through MWDOC and groundwater production within the OC Basin are established annually via agency coordination based on the estimated demands and various other factors in Orange County. These estimated demands will include the Project starting in 2029. Based on METs reliability and the sustainable management of the OC Basin by OCWD, this WSA expects that the additional demand from the Project along with the projected demands from the UWMPs can be met with a BPP of 85% and 15% imported water.

5.0 REFERENCES

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Appendix A city of Seal Beach and GSWC west orange service area 2020 Urban Water Management Plans Link
April 12, 2024

APPENDICES

Appendix A CITY OF SEAL BEACH AND GSWC WEST ORANGE SERVICE AREA 2020 URBAN WATER MANAGEMENT PLANS LINK

The City of Seal Beach's 2020 Urban Water Management Plan can be found here:
https://www.sealbeachca.gov/Portals/0/Documents/Public%20Works/Seal%20Beach%202020%20UWMP%20FINAL%20DRAFT%2006102021.pdf?ver=2021-06-10-151133-793

Golden State Water Company West Orange Service Area. July 2021. 2020 Urban Water Management Plan. Available at:
https://wuedata.water.ca.gov/getfile?filename=/public%2Fuwmp_attachments%2F1441205680%2FGSWC-West%20Orange%202020%20UWMP%20Final.pdf

Appendix B SEAL BEACH 2012 WATER MASTER PLAN UPDATE LINK

The City of Seal Beach's 2012 Water Master Plan Update can be found here:
https://www.sealbeachca.gov/Portals/0/Documents/Water%20Master%20Plan%20Update%20July%202012.pdf