



Draft Environmental Impact Report

Marja Acres Project

SCH No. 2018041022

Carlsbad, California

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Prepared for

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Appendix G	Preliminary Drainage Study
Appendix H	Preliminary Storm Water Quality Management Plan
Appendix I	Noise Technical Report
Appendix J	Traffic Impact Analysis
Appendix K	Water System Analysis
Appendix L	Sewer Service Analysis
Appendix M	Alternatives Calculations - Trip Generation, Air Quality, and Greenhouse Gases

Acronyms and Abbreviations

μPA	Micropascals
AAQS	Ambient Air Quality Standards
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ACM	asbestos-containing materials
ADD	Average daily demand
ADT	average daily traffic
ADU	accessory residential dwelling unit
APE	annual exceedance probability
AFY	acre feet per year
AGR	Agricultural Supply
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
AOC	Area of Concern
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQIA	Air Quality Impact Assessments
AQUA	Aquaculture
ARB	Air Resources Board
AST	Aboveground storage tank
BIOL	Biological Habitats of Special Significance
BMP	best management practice
BMPDM	Best Management Practice Design Manual
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Cal EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalGreen	California Green Building Standards Code
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CAO	Cleanup Abatement Order
CAP	Climate Action Plan

CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CBSC	California Building Standards Commission
CC&R	Covenants, Conditions and Restrictions
CCA	California Coastal Act
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDO	Cease and Desist Order
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	California Fire Code
CFC	Chlorofluorocarbon
CFD	Community Facilities District
CFIP	Citywide Facilities and Improvements Plan
CFR	Code of Federal Regulations
CGC	California Government Code
CGP	Construction General Permit
CH ₄	methane
City	City of Carlsbad
CLUP	Comprehensive Land Use Plan
CMC	Carlsbad Municipal Code
CMP	Congestion Management Program
CMWD	Carlsbad Municipal Water District
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
COC	contaminants of concern



COMM	Commercial and Sport Fishing
CRHR	California Register of Historical Resources
CRPOZ	Coastal Resource Protection Overlay Zone
CRPR	California Rare Plant Rank
CTR	California Toxics Rule
CUP	Conditional Use Permit
CUSD	Carlsbad Unified School District
CWA	Clean Water Act
CWMD	Carlsbad Municipal Water District
d/D	depth-to-diameter
dB	Decibel
dBA	Decibel, A-Weighted
DDE	Dichlorodiphenyldichloroethylene
DEH	Department of Environmental Health
DMA	Drainage Management Area
DOC	Department of Conservation
DOT	Department of Transportation
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
du/ac	dwelling units per acre
EDU	Equivalent Density Unit
EDR	Environmental Data Resources, Inc.
EI	expansion index
EIR	environmental impact report
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESA	environmental site assessment
ESHA	environmentally sensitive habitat areas
EST	Estuarine Habitat
EV	electric vehicle
EWA	Encina Wastewater Authority
f ³	Cubic feet
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act

FGC	Fish and Game Code
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FSZ	Farmland Security Zone
g	peak ground accelerations
GCC	Global climate change
GHG	greenhouse gas
GIS	Geographic Information System
GMCP	Growth Management Control Point
GMP	Growth Management Plan
GPA	General Plan Amendment
GPD	gallons per day
GPD/DU	gallons per day/dwelling unit
GPM	gallons per minute
GWP	Global warming potential
H&SC	Health and Safety Code
H ₂ S	hydrogen sulfide
HA	hydrologic area
HAZMIT Plan	San Diego County Multi-Jurisdictional Hazard Mitigation Plan
HCFC	hydrochlorofluorocarbons
HCM	Highway Capacity Manual
HDP	Hillside Development Permit
HDPE	High-density polyethylene
HFC-134a	s, s, s, 2-tetrafluoroethane
HFC-152a	Difluoroethane
HFC-23	Fluoroform
HFC	hydrofluorocarbons
HMP	habitat management plan
HOA	Homeowners' Association
HSA	Hydrologic Subarea
HSWA	Hazardous and Solid Waste Act
HU	hydrologic unit
HVAC	heating, ventilation, and air conditioning
I-5	Interstate 5

IBC	International Building Code
ICMA	International City/County Management Association
ICU	Intersection Capacity Utilization
IMP	Integrated Management Practice
in/sec	inches per second
IND	Industrial Service Supply
IPCC	International Panel on Climate Change
ITE	Institution of Transportation Engineers
kBTU	Thousand British thermal units
kph	kilometers per hour
kWh	kilowatt hours
L-C	Limited Control
LBP	lead-based paint
LCFS	Low Carbon Fuel Standard
LCP	Local Coastal Program
LCPA	Local Coastal Program Amendment
LCWD	Leucadia County Wastewater District
L _{dn}	24-hour day and night A-weighted noise exposure level
LED	light emitting diodes
L _{eq}	Equivalent Continuous Noise Level
LFMP	Local Facilities Management Plan
LFMZ	Local Facilities Management Zone
LID	Low Impact Development
L _{max}	Instantaneous maximum noise level for a specified period of time
LOS	level of service
LRA	Local Responsibility Areas
LST	Localized Significance Threshold
LTSM	less than significant impact with mitigation
LWD	Leucadia Wastewater District
M	Million
MAR	Marine Habitat
MBTA	Migratory Bird Treaty Act
mg/kg	milligrams per kilogram
mg/m ³	milligrams per cubic meter
MGD	million gallons per day

MHCP	Multiple Habitat Conservation Program
MIGR	Migration of Aquatic Organisms
MLD	most likely descendent
MMBtu	Million metric British thermal units
MMLOS	multi-modal level of service
MMRP	Mitigation Monitoring and Reporting Program
MP	Master Plan
MPA	Master Plan Amendment
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MSL	mean sea level
MTCO _{2e}	million metric tons of carbon dioxide equivalent
MUN	Municipal and Domestic Supply
MW	megawatt
MWD	Metropolitan Water District of Southern California
N/A	not applicable
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NB	Northbound
NCCP	Natural Community Conservation Planning
NCTD	North County Transit District
NFIP	National Flood Insurance Program
NHTSA	National Highway Traffic Safety Administration
NO	nitric oxide
NO ₂	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NPL	National Priority List
NRHP	National Register of Historic Places
NWP	Nationwide Permit

O ₃	ozone
OAQPS	Office of Air Quality Planning and Standards
°F	degrees Fahrenheit
OES	California Office of Emergency Services
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
Pb	lead
PCBs	polychlorinated biphenyls
PCCSYA	Potential Critical Coarse Sediment Yield Area
PFCs	perfluorocarbons
PM ₁₀	particulate matter of 10 microns or less in diameter
PM _{2.5}	particulate matter of 2.5 microns or less in diameter
PMP	Property Mitigation Plan
POC	Points of Compliance
ppb	Parts per billion
ppd	Pounds per day
ppm	parts per million
PPV	Peak particle velocity
PRC	Public Resources Code
psi	pounds per square inch
PUD	planned development permit
PV	photovoltaic
PVC	polyvinyl chloride
Q ₁₀	10-year runoff event
Q ₂	2-year flow
Q ₅	5-year runoff event
R-1	Family Residential
R-4	Residential
RARE	Rare, Threatened, or Endangered Species
RAQS	Regional Air Quality Strategy
RCP	Regional Comprehensive Plan
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act of 1976
REC-1	Contact Water Recreation
REC-2	Non-Contact Water Recreation

REC	recognized environmental condition
RES	Regional Energy Strategy
RHNA	Regional Housing Needs Assessment
RMS	root-mean-square
ROC	reactive organic compounds
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RSL	Regional Screening Levels
RTP	Regional Transportation Plan
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SAH	sewer access hole
SANDAG	San Diego Association of Governments
SANTEC	San Diego Traffic Engineers' Council
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCCWRP	Southern California Coastal Water Research Project
SCH	State Clearinghouse
SCIC	South Coastal Information Center
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDBL	State Density Bonus Law
SDCHM	San Diego County Hydrology Manual
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas and Electric
SDP	site development plan
sf	square foot/square feet
SF ₆	sulfur hexafluoride
SHELL	Shellfish Harvest
SHRC	State Historical Resources Commission
SIP	State Implementation Plan
SLIC	spills, leaks, investigations, and cleanup
SLT	Screening Level Thresholds
SO ₂	sulfur dioxide
SO _x	sulfur oxides

SPT	Standard Penetration Tests
SPWN	Spawning, Reproduction, and/or Early Development
SR-78	State Route 78
SRA	special resource area
STP	shovel test pit
SUP	Special Use Permit
SUSMP	Standard Urban Storm Water Mitigation Plan
SWAT	Special Weapons and Tactics
SWMM	Stormwater Management Model
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWQMP	Stormwater Quality Management Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TDM	transportation demand management
TMDL	total maximum daily load
TNM	Traffic Noise Model
UFC	Uniform Fire Code
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
v/c	volume to capacity
VdB	Vibration velocity decibels
VMT	vehicle miles traveled
VOC	volatile organic compounds
VWD	Vallecitos Water District
WARM	Warm Freshwater Habitat
WILD	Wildlife Habitat
WOUS	waters of the United States.
WRI	World Resources Institute
WRMP	Water Resources Master Plan
WSA	water supply assessment

ZC	zone change
ug/kg	micrograms per kilogram
µg/l	micrograms per liter
µg/m ³	micrograms per cubic meter
UST	underground storage tanks

1 Introduction

1.1 Introduction

This environmental impact report (EIR) has been prepared in compliance with the California Environmental Quality Act (CEQA) Public Resources Code (PRC) Section 21000 et seq. and the CEQA Guidelines (Section 15000 et seq.) as promulgated by the California Resources Agency and the Governor's Office of Planning and Research. The purpose of this environmental document is to assess the potential environmental effects associated with the Marja Acres Project (proposed project).

1.2 Purpose of an EIR

This EIR is intended to provide information to public agencies, the general public, and decision makers, regarding the project-specific and cumulative environmental impacts of the proposed project. Under the provisions of CEQA:

"The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." (PRC Section 21002.1(a).)

1.3 EIR Adequacy

The principal use of this EIR is to evaluate and disclose potential environmental impacts associated with the implementation of the proposed project. An EIR is an informational document and is not intended to determine the merits or recommend approval or disapproval of a proposed project. Ultimately, the city decision-makers must weigh the environmental effects of a proposed project among other considerations, including planning, economic, and social concerns.

City staff will prepare a "staff report" that synthesizes pertinent environmental and planning information into a single document. The staff report will be presented to the city decision-maker. Given the important role of the EIR in this planning and decision-making process, it is imperative that the information presented in the EIR be factual, adequate, and complete. The standards of adequacy of an EIR, defined by Section 15151 of the CEQA Guidelines, are as follows:

"An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and good faith effort at full disclosure."

1.4 Document Organization

The content and format of this EIR meet the current requirements of CEQA and the CEQA Guidelines. This EIR is organized into eight sections with a supplemental appendices section, as described below, so the reader can easily obtain information about the proposed project and its specific issues.

Section 1 – Introduction: Describes the purpose and use of the EIR and the organization of the EIR. This section provides a description of the Notice of Preparation (NOP) and Scoping process, including a summary of comments received. A list of environmental topics addressed in the EIR is provided.

Section 2 – Executive Summary: Provides a summary of the potential impacts, mitigation measures of the proposed project and impact conclusions, and a summary of alternatives to the proposed project. Areas of controversy and issues to be resolved are discussed.

Section 3 – Project Description: Provides a detailed description of the proposed project, including on-site and off-site improvements, proposed land uses and project components, and discretionary actions. This section identifies the overall objectives for the proposed project.

Section 4 – Environmental Setting: Describes the project site's general environmental setting. A more detailed description of the environmental setting as it relates to each environmental issue area is provided in EIR Section 5.

Section 5 – Environmental Impact Analysis: Presents, for each environmental issue, the existing environmental setting and conditions before project implementation; regulatory environment; methods and assumptions used in impact analysis; thresholds for determining significance; impacts that would result from the proposed project; mitigation measures that would eliminate or reduce significant impacts, and the level of significance of each impact area after implementation of mitigation.

Section 6 – Alternatives: Evaluates the environmental effects of the proposed project alternatives, including the following: No Project/No Development Alternative, Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative, Reduced Project Alternative, Previously-Proposed Plan Alternative, and Alternative Project Location. Additionally, this section identifies an environmentally superior alternative.

Section 7 – Analysis of Long-term Effects: Identifies cumulative impacts, growth-inducing impacts, irreversible and irretrievable commitment to resources, and significant and adverse environmental impacts.

Section 8 – References: Identifies the documents (printed references) and individuals (personal communications) consulted in preparing this EIR, and also lists the individuals involved in preparing this EIR.

Appendices: Presents data supporting the analysis or contents of this EIR. All technical appendices are provided electronically on a CD in a pocket on the back cover of this document. In addition, copies of these reports are on file at the City of Carlsbad Planning Division, 1635 Faraday Avenue, Carlsbad, CA 92008 during normal business hours, and at the following locations:

- City Clerk's Office
1200 Carlsbad Village Drive
Carlsbad, CA 92008

- City of Carlsbad (Dove) Library
1775 Dove Lane
Carlsbad, CA 92011
- Georgina Cole Library
1250 Carlsbad Village Drive
Carlsbad, CA 92008

1.5 Notice of Preparation and Scoping Meeting

Development of the proposed project is subject to the requirements of CEQA because it is an action subject to discretionary approval by a public agency (in this case, the City of Carlsbad) that has the potential to result in a physical change in the environment.

The City of Carlsbad began the environmental review process pursuant to CEQA by sending out a NOP, including a project description and the preliminary site plan (Appendix A). The NOP was distributed locally to interested local public agencies and the general public, and to the State Clearinghouse (SCH) for distribution to state responsible and trustee agencies.

The locally-distributed NOP was published in the *San Diego Union Tribune* and filed with the County Clerk on April 6, 2018. The NOP was also provided on the city's website. The CEQA-required 30-day NOP review period began on April 6, 2018, and identified that the city intended to prepare an EIR for the proposed project. The NOP served as a chance for interested local public agencies and the general public to comment on the proposed project and the scope and content of environmental issues to be examined in the EIR. Pursuant to CEQA, the NOP review period is 30 days, and, therefore, the comment period closed on May 7, 2018.

The NOP was also submitted to the SCH for distribution to state responsible and trustee agencies. The CEQA required 30-day NOP review period began April 6, 2018, and closed May 6, 2018. A public scoping meeting was held on April 17, 2018, at 6:00 p.m. at the City of Carlsbad Faraday Center, 1635 Faraday Avenue, Carlsbad, CA 92008. Comments regarding the proposed project were received by the city and are included in Appendix A. Table 1-1 provides a summary of the NOP comments received.

Table 1-1. Summary of Notice of Preparation Comments

Environmental Issue Area	Issues Raised
Visual/Aesthetics	<ul style="list-style-type: none"> • Lighting impacts • Impacts on surrounding natural views • Fencing and barriers
Air Quality	<ul style="list-style-type: none"> • Air pollution from construction • Increased traffic air pollution
Biology Resources	<ul style="list-style-type: none"> • Impacts on potential sensitive species • Impacts on potential hawks and other birds in the project area • Impacts on open space and natural surroundings (lagoon and wetlands)
Cultural Resources	<ul style="list-style-type: none"> • Impacts on potential cultural, tribal, and/or paleontological resources
Hazards and Hazardous Materials	<ul style="list-style-type: none"> • Concerns regarding hazardous materials potentially present due to historic agricultural use of project site • Construction runoff contaminated with pesticides
Hydrology	<ul style="list-style-type: none"> • Concerns regarding proper drainage of re-contoured land • Contamination of lagoon because of increased surface runoff
Land Use/Planning	<ul style="list-style-type: none"> • Scale of development • Compatibility with adjacent uses
Noise	<ul style="list-style-type: none"> • Noise from new vehicular traffic • Construction noise
Population/Housing	<ul style="list-style-type: none"> • Density of proposed development • Increase in population • Increase in elementary school children
Recreation	<ul style="list-style-type: none"> • Increase in recreational area usage
Traffic	<ul style="list-style-type: none"> • Increase in traffic due to increased population • Consider multimodal mobility • Impacts on emergency providers as a result of congested traffic • Parking
Utilities	<ul style="list-style-type: none"> • Water supply

1.6 Environmental Topics Addressed

Pursuant to CEQA Guidelines Section 15060(d), if a lead agency can determine that an EIR will be clearly required for a project, the agency does not need to prepare an Initial Study and can begin work directly on the EIR. Because the city did not prepare a formal Initial Study for the proposed project, all CEQA environmental issue areas are addressed in the EIR. Specifically, the following environmental topics are analyzed in this EIR.

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources together with Tribal Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions/Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Transportation and Traffic
- Utilities and Service Systems

1.7 CEQA Guidelines and Appendix G Environmental Updates

In 2013, the Governor's Office of Planning and Research initiated a comprehensive, multiyear effort aimed at updating the CEQA Guidelines, including the Appendix G environmental checklist. The proposed updates to the CEQA Guidelines were published in November of 2017 (Governor's Office of Planning and Research 2017). The Natural Resources Agency finalized the updates to the CEQA Guidelines and, the Office of Administrative Law approved changes in December of 2018 and those changes are now in effect.

As previously indicated above, the CEQA required 30-day NOP review period for the proposed project began April 6, 2018. Furthermore, the Notice of Availability will be published prior to April 28, 2019. Therefore, preparation of this EIR followed the previous CEQA Guidelines pursuant to City direction.

Nevertheless, in an abundance of caution, this document includes a brief summary of the updated CEQA Guidelines and their impact on this analysis. The approved updates fall into two categories: (1) efficiency and organizational improvements, and (2) major substantive improvements. These updates incorporate California Supreme Court decisions and recently adopted legislation amending the CEQA Guidelines, including major reforms pertaining to the metrics used in evaluating transportation impacts and new environmental resource topics such as tribal cultural resources.

Table 1-2 and Table 1-3 summarize the updated 2019 CEQA Guidelines Appendix G environmental issue areas and indicate where the analysis is provided in this EIR. As shown on Table 1-2 and Table 1-3, all of the requirements of the 2019 CEQA Guidelines are addressed herein as the EIR evaluates all 20 impact areas and all of the currently applicable Appendix G checklist questions.

Table 1-2. Updated CEQA Guidelines Environmental Checklist – New or Modified

2019 Modification	Appendix G Threshold	Location where Updated Threshold is Addressed	Significance Determination	Significance Determination with Updated Guidelines
<i>Aesthetics</i>				
Edited	Would the project, in non-urbanized areas, 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 publicly accessible vantage point)? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Section 5.1: Aesthetics/Grading, Impact 5.1-3	Less than Significant	Remains unchanged
<i>Air Quality</i>				
Edited	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?	Section 5.3: Air Quality, Impact 5.3-3	Less than Significant	Remains Unchanged
Edited	Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Section 5.3: Air Quality, Impact 5.3-5	Less than Significant	Remains unchanged
<i>Biological Resources</i>				
Edited	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?	Section 5.4: Biological Resources, Impact 5.4-3	Less than Significant with Mitigation	Remains unchanged

Table 1-2. Updated CEQA Guidelines Environmental Checklist – New or Modified

2019 Modification	Appendix G Threshold	Location where Updated Threshold is Addressed	Significance Determination	Significance Determination with Updated Guidelines
Cultural Resources				
Edited	Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	Section 5.5: Cultural Resources, Impact 5.5-1	No Impact	Remains unchanged
Energy				
New	Would the project result in in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?	Section 7.4: Energy Conservation and Appendix F Considerations	Less than Significant	Remains unchanged
New	Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?		Less than Significant	Remains unchanged

Table 1-2. Updated CEQA Guidelines Environmental Checklist – New or Modified

2019 Modification	Appendix G Threshold	Location where Updated Threshold is Addressed	Significance Determination	Significance Determination with Updated Guidelines
Geology and Soils				
Edited	<p>Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <ul style="list-style-type: none"> 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 	Section 5.6: Geology/Soils, Impact 5.6-1	Less than Significant with Mitigation	Remains unchanged
Edited	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 risk to life or property?	Section 5.6: Geology/Soils, Impact 5.6-4	Less than Significant with Mitigation	Remains unchanged
Relocated	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Section 5.5: Cultural Resources, Impact 5.5-3	Less than Significant with Mitigation	Remains unchanged

Table 1-2. Updated CEQA Guidelines Environmental Checklist – New or Modified

2019 Modification	Appendix G Threshold	Location where Updated Threshold is Addressed	Significance Determination	Significance Determination with Updated Guidelines
Hazards and Hazardous Materials				
Edited	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?	Section 5.8: Hazards and Hazardous Materials, Impact 5.8-5	No Impact	Remains unchanged
Edited	Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	Section 5.8: Hazards and Hazardous Materials, Impact 5.8-8	Less than Significant	Remains unchanged
Hydrology and Water Quality				
Edited	Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Section 5.9: Hydrology and Water Quality, Impact 5.9-1	Less than Significant with Mitigation	Remains unchanged
Edited	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?	Section 5.9: Hydrology and Water Quality, Impact 5.9-2	No Impact	Remains unchanged
Edited	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?	Section 5.9: Hydrology and Water Quality, Impact 5.9-3	Less than Significant	Remains unchanged

Table 1-2. Updated CEQA Guidelines Environmental Checklist – New or Modified

2019 Modification	Appendix G Threshold	Location where Updated Threshold is Addressed	Significance Determination	Significance Determination with Updated Guidelines
Edited	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: (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Section 5.9: Hydrology and Water Quality, Impact 5.9-4	Less than Significant	Remains unchanged
Edited	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: (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?	Section 5.9: Hydrology and Water Quality, Impact 5.9-5	Less than Significant	Remains unchanged
Edited	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: iv) Impede or redirect flood flows?	Section 5.9: Hydrology and Water Quality, Impact 5.9-8	No Impact	Remains unchanged
Edited	Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Section 5.9: Hydrology and Water Quality, Impacts 5.9-8 and 5.9-10	Less than Significant	Remains unchanged

Table 1-2. Updated CEQA Guidelines Environmental Checklist – New or Modified

2019 Modification	Appendix G Threshold	Location where Updated Threshold is Addressed	Significance Determination	Significance Determination with Updated Guidelines
New	Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Section 5.9: Hydrology and Water Quality, Impact 5.9-1	Less than Significant with Mitigation	Remains unchanged
Land Use and Planning				
Edited	Would the project 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?	Section 5.10: Land Use Planning, Impact 5.10-2	Less than Significant with Mitigation	Remains unchanged
Noise				
Edited	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?	Section 5.11: Noise, Impacts 5.11-1, 5.11-3, and 5.11-4	Less than Significant with Mitigation	Remains unchanged
Edited	Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	Section 5.11: Noise, Impact 5.11-2	Less than Significant	Remains unchanged
Edited	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 2 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?	Section 5.11: Noise, Impacts 5.11-5 and 5.11-6	Less than Significant	Remains unchanged

Table 1-2. Updated CEQA Guidelines Environmental Checklist – New or Modified

2019 Modification	Appendix G Threshold	Location where Updated Threshold is Addressed	Significance Determination	Significance Determination with Updated Guidelines
Population and Housing				
Edited	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)?	Section 5.12: Population/Housing, Impact 5.12-1	Less than Significant	Remains unchanged
Edited	Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Section 5.12: Population/Housing, Impacts 5.12-2 and 5.12-3	Less than Significant	Remains unchanged
Transportation				
Edited	Would the project conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Section 5.14: Transportation/Circulation, Impacts 5.14-1 and 5.14-6	Less than Significant	Remains unchanged
New	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	This threshold is not applicable until 2020	This threshold is not applicable until 2020	This threshold is not applicable until 2020
Edited	Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Section 5.14: Transportation/Circulation, Impact 5.14-4	No Impact	Remains unchanged

Table 1-2. Updated CEQA Guidelines Environmental Checklist – New or Modified

2019 Modification	Appendix G Threshold	Location where Updated Threshold is Addressed	Significance Determination	Significance Determination with Updated Guidelines
Utilities and Service Systems				
Edited	Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage electric power, natural gas, or telecommunications facilities the construction of which could cause significant environmental effects?	Section 5.15: Utilities and Service Systems, Impacts 5.15-2 and 5.15-3	Less than Significant	Remains unchanged
Edited	Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Section 5.15: Utilities and Service Systems, Impact 5.15-4	Less than Significant	Remains unchanged
Edited	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?	Section 5.15: Utilities and Service Systems, Impact 5.15-6	Less than Significant	Remains unchanged
Edited	Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Section 5.15: Utilities and Service Systems, Impact 5.15-7	No Impact	Remains unchanged
Wildfire				
New	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project impair an adopted emergency response plan or emergency evacuation plan?	Section 5.8 Hazards and Hazardous Materials, Impact 5.8-8	Less than Significant	Remains unchanged

Table 1-2. Updated CEQA Guidelines Environmental Checklist – New or Modified

2019 Modification	Appendix G Threshold	Location where Updated Threshold is Addressed	Significance Determination	Significance Determination with Updated Guidelines
New	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, 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?		Less than Significant	Remains unchanged
New	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, 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?		Less than Significant	Remains unchanged
New	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, 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?		Less than Significant	Remains unchanged

Table 1-3. Updated CEQA Guidelines Environmental Checklist – Removed

Potential Environmental Impact	Location	Significance Determination
<i>Air Quality</i>		
Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Section 5.3: Air Quality, Impact 5.3-2	Less than Significant
<i>Hazards and Hazardous Materials</i>		
For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	Section 5.8: Hazards and Hazardous Materials, Impact 5.8-6	No Impact
<i>Hydrology and Water Quality</i>		
Would the project place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary map or FIRM or other flood hazard delineation map?	Section 5.9: Hydrology and Water Quality, Impact 5.9-7	No Impact
Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?	Section 5.9: Hydrology and Water Quality, Impact 5.9-8	No Impact
<i>Noise</i>		
Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Section 5.11: Noise, Impact 5.11-3	Less than Significant with Mitigation
A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Section 5.11: Noise, Impact 5.11-4	Less than Significant

Table 1-3. Updated CEQA Guidelines Environmental Checklist – Removed

Potential Environmental Impact	Location	Significance Determination
For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	Section 5.11: Noise, Impact 5.11-6	No Impact
Transportation		
Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	Section 5.14: Transportation/Circulation, Impact 5.14-2	No Impact
Would the project result in a change in air traffic patterns, including either an increase in traffic levels or change in location that results in substantial safety risks?	Section 5.14: Transportation/Circulation, Impact 5.14-3	No Impact
Utilities and Service Systems		
Would the project exceed wastewater treatment requirements of the applicable RWCQB?	Section 5.15: Utilities and Service Systems, Impact 5.15-1	Less than Significant
Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Section 5.15: Utilities and Service Systems, Impact 5.15-3	Less than Significant



1.8 EIR Processing

This Draft EIR has been distributed to various federal, state, regional, county, and city agencies and interested parties for a 45-day public review period in accordance with Section 15087 of the CEQA Guidelines. In addition, this Draft EIR, including supporting technical documentation, is available to the general public for review during normal operating hours at the City of Carlsbad Planning Division at 1635 Faraday Avenue, Carlsbad, CA 92008. Copies are available to the public upon payment of a charge for reproduction. Copies are also available for review at the following locations: (1) City Clerk's Office, 1200 Carlsbad Village Drive; (2) Carlsbad City (Dove) Library, 1775 Dove Lane; and (3) Georgina Cole Library, 1250 Carlsbad Village Dr. The Draft EIR is also posted on the City of Carlsbad's official website at www.carlsbadca.gov.

1.9 Comments Requested

Interested parties may provide written comments on the Draft EIR before the end of the 45-day public review and comment period. Written comments on the Draft EIR must be submitted to:

Teri Delcamp, Principal Planner
City of Carlsbad Planning Division
1635 Faraday Avenue
Carlsbad, CA 92008

Comments may also be e-mailed to Teri.Delcamp@carlsbadca.gov.

Following the 45-day public review and comment period for the Draft EIR, the city will prepare a written response for each written comment received on the Draft EIR. The written comments and city responses to those comments, as well as any required EIR changes, will be incorporated into a Final EIR. The Final EIR will be reviewed by the city at the time the proposed project is considered for approval.

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2 Executive Summary

2.1 Project Synopsis

2.1.1 Project Location

The project site is located in the Northwest Quadrant of the City of Carlsbad, in northern San Diego County. The City of Carlsbad is bordered to the north by the City of Oceanside, to the south by the City of Encinitas, to the east by the cities of Vista and San Marcos, and on the west by the Pacific Ocean. The project site is located approximately two miles east of the Pacific Ocean and 31 miles north of downtown San Diego. Regional access to the project site is provided by Interstate 5 (I-5) and State Route 78 (SR-78).

The proposed Marja Acres Project (proposed project) is located on two parcels (Assessor's Parcel Numbers [APN] 207-101-35 and 207-101-37) totaling 20.65 acres of land. The project site is located south of El Camino Real, east of Kelly Drive, north of Park Drive, and west of Lisa Street.

2.1.2 Existing Setting

The project site is currently improved with a small-scale commercial development accessed from El Camino Real, and one existing home, associated structures, and disturbed land that was utilized in the past for agriculture. The western portion of the project site is occupied by a commercial nursery.

The Robertson Ranch residential and commercial development is currently under construction across El Camino Real to the north of the project site. Existing single-family residential units are located to the west of the project site (along Kelly Drive), and to the south of the site (along Park Drive). A small mobile home park is located to the east of the project site.

The project site is located within California's Coastal Zone, defined as the area between the seaward limits of the state's jurisdiction and generally 1,000 yards landward from the mean high tide line. In Carlsbad, the coastal zone boundary generally encompasses the area east of the Pacific Ocean to El Camino Real. The city's Local Coastal Program (LCP), adopted in 1996, includes the city's land use plans, policies, and standards and an implementing ordinance (the Zoning Ordinance) for the city's Coastal Zone. The city's LCP includes six planning areas or segments that cover approximately one-third of the city. The project site is located within the Mello II Segment of the city's LCP, and is within the appellate jurisdiction of the California Coastal Commission (CCC).

Vegetation communities or land cover types identified on-site include ornamental/non-native vegetation, disturbed habitat, disturbed habitat/discarded land, and urban/developed land. The project site is subject to regular disturbance as a result of the existing and historic uses, which include a mix between previous (historic) agriculture and current commercial/retail uses. The disturbed land in the north, west, and southern portion, and urban/developed land in the north and western portion of the project site are all subject to regular human activity. The undeveloped portions of the project site have been routinely discarded. The developed portions of the project site currently are maintained for commercial/retail use.

2.1.3 Project Objectives

The project applicant has identified the following objectives for implementing the proposed project:

- Promote the construction of workforce housing near existing employment centers, infrastructure and public utilities.
- Provide a quality residential community of attached single-family homes attainably priced for young families and professionals.
- Provide low-income and very-low income age-restricted affordable housing to implement the *Carlsbad General Plan* and statewide housing goals.
- Redevelop and infill site identified in the city's Housing Element as underutilized with much-needed housing and neighborhood commercial uses.
- Design and implement a walkable mixed-use community that provides a balance of affordable and market rate housing connected to community gathering areas and commercial amenities.
- Create a new mixed-use community consistent with the goals and policies of the *Carlsbad General Plan* and LCP.
- Facilitate the establishment and operation of a community garden and vegetable stand to serve residents, as well as visitors to the proposed project's commercial and gathering spaces.
- Provide pedestrian-scale, economically viable neighborhood commercial uses that serve proposed project residents and visitors while also paying homage to past uses and structures on the site.
- Provide neighborhood recreational and open space amenities that will induce residents to minimize travel, resulting in a reduction of GHG emissions.
- Design a community that encourages social interaction by integrating land use types and mobility within the community.
- Utilize context sensitive grading techniques and proposed project design features to ensure compatibility with adjacent residential land uses.

2.1.4 Project Characteristics

The proposed project includes a total of 296 dwelling units consisting of 237 townhomes within the R-15 General Plan designated area, and 46 age-restricted affordable apartment units, 13 townhomes, a 4,000-square-foot restaurant pad and a 6,000-square-foot retail pad area within the General Commercial General Plan designated area.

The proposed project would utilize the opportunities provided by the Residential Density Bonus and Incentives or Concession section of the Carlsbad Zoning ordinance (Carlsbad Municipal Code [CMC] Chapter 21.86). This allows up to a 35 percent increase in the number of units beyond the maximum General Plan density calculations. CMC Chapter 21.86 is fully intended to implement the Housing Element of the *Carlsbad General Plan* and provide additional affordable housing for lower- and moderate-income households.

2.1.5 Discretionary Actions and Other Approvals Associated with the Proposed Project

In conformance with Sections 15050 and 15367 of the State CEQA Guidelines, the city has been designated as the “lead agency,” which is defined as, “the public agency which has the principal responsibility for carrying out or approving a project.” The following identifies the discretionary actions and approvals by the city for the proposed project.

- **Tentative Map (CT 16-07).** The Applicant is requesting approval of a Tentative Tract Map required for development of the proposed project site. A tentative tract map is required by the California Subdivision Map Act (Government Code §66426 et seq.)
- **Planned Development Permit – Residential (PUD 16-09).** The Applicant is requesting a planned development permit (PUD) to facilitate individual ownership of units and subdivision of the residential areas.
- **Planned Development Permit - Nonresidential (PUD 2018-0007).** The Applicant is requesting a nonresidential PUD to facilitate individual ownership of commercial and age-restricted lots, and mixed-use-residential units along with subdivision of the commercial site.
- **Site Development Plan (SDP 2018-0001).** A site development plan (SDP) is required for the age-restricted affordable housing component of the project and for the proposed residential uses located with the General Commercial zone.
- **Coastal Development Permit (CDP 16-33).** A Coastal Development Permit (CDP) is required to construct the proposed project. This permit is necessary as the project site is located in the Coastal Zone within the Mello II Segment of the LCP, and is within the appellate jurisdiction of the CCC.
- **Hillside Development Permit (HDP 16-02).** Grading of the proposed project site is subject to the city’s Hillside Development Ordinance as project areas contain hillside conditions that are defined as slopes greater than 15 feet in height and 15 percent in slope. The purpose of the Hillside Development Permit (HDP) is to regulate grading per the city’s Hillside Development Ordinance (Municipal Code Chapter 21.95) standards and policies.
- **Special Use Permit (16-02).** The project site is located along El Camino Real within the Scenic Preservation Overlay and is subject to the El Camino Real Corridor Development Standards. Thus, a Special Use Permit (SUP) is required for the proposed project.
- **Final EIR Certification (EIR 2017-0001).** After the required public review of the Draft EIR, the city will respond to comments, edit the document, and produce a final EIR to be certified by the city decision-maker as complete and providing accurate information concerning the potential environmental impacts of the proposed project.

2.1.6 Discretionary Actions and Approvals by Other Agencies

The project site supports a low-quality drainage ditch that could qualify as non-wetland waters of the U.S. (WOUS) subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Clean Water Act (CWA) Section 404, non-wetland waters of the state subject to Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to CWA Section 401, and unvegetated streambed subject to California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to California Fish and Game Code Sections 1600 et seq. The proposed project will require the following agency notifications and permits:

- **USACE** - The project applicant shall prepare and submit notification to the USACE for unavoidable impacts on non-wetland WOUS. Based on the USACE's CWA Section 404 Nationwide Permit (NWP) program, project activities would be covered under NWP 29 – Residential Developments, contingent upon waiver of the 300 linear feet limit for this permit.
- **RWQCB** - The project applicant shall prepare and submit a CWA Section 401 Request for Water Quality Certification to the RWQCB for unavoidable impacts on non-wetland waters of the state.
- **CDFW** - The project applicant shall prepare and submit a California Fish and Game Code Section 1602 Notification of Lake or Streambed Alteration to the CDFW for unavoidable impacts on unvegetated jurisdictional streambed.

2.2 Summary of Significant Impacts and Mitigation Measures that Reduce or Avoid the Significant Impacts

Table 2-1 summarizes environmental impacts, mitigation measures, and level of significance after mitigation associated with the proposed project. Detailed analyses of these topics are included within each corresponding section contained within this document.



Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
<i>Aesthetics/Grading</i>			
No significant aesthetic impacts were identified.	Less than significant	No mitigation measures required.	N/A
<i>Agriculture and Forestry Resources</i>			
No significant impacts on agricultural and forestry resources were identified.	No impact	No mitigation measures required.	N/A
<i>Air Quality</i>			
No significant impacts on air quality were identified.	Less than significant	No mitigation measures required.	N/A
<i>Biological Resources</i>			
Construction of the proposed project could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts on nesting birds and violation of the Migratory Bird Treaty Act and California Fish and Game Code.	Significant	BIO-1 Nesting Bird and Raptor Avoidance. If initial grading and vegetation removal activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird breeding season for migratory birds and raptors (January 15 and September 15), the project applicant shall retain a qualified biologist to perform a preconstruction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the MBTA and California FGC. The preconstruction survey shall be performed no more than 7 days prior to the commencement of grading and/or vegetation removal activities. If the qualified biologist determines no active migratory bird or raptor nests occur, the activities shall be allowed to proceed without any further requirements. Should an active nest of any MBTA-covered species occur within or adjacent to the project impact area, a 100-foot buffer (300 feet for raptors) shall be established around the nest, and no construction shall occur within this area until a qualified biologist determines the nest is no longer active or the young have fledged.	Less than significant

Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Project development would impact common upland habitat types (Carlsbad HMP Habitat Group F) that are not sensitive natural communities. Impacts on non-sensitive upland habitat types require purchase of in-lieu fee credits under the HMP.	Significant	BIO-2 Habitat Management Plan In-Lieu Mitigation Fee. Prior to recordation of a final map or issuance of a grading permit, whichever occurs first, the project applicant shall pay habitat in-lieu mitigation fees according to the ratios and amounts established by the Habitat Management Plan for Natural Communities in the City of Carlsbad.	Less than significant
Potential significant indirect impacts could occur if stormwater runoff is not controlled at the construction site, and sediment, toxics, and/or other material is inadvertently carried into sensitive habitat within the adjacent off-site Kelly Creek. Further, if the construction work areas are not properly fenced, inadvertent encroachment into adjacent sensitive riparian habitat associated with Kelly Creek could occur.	Significant	<p>The following mitigation measure, in addition to Mitigation Measures WQ-1 and WQ-2 (described below under Hydrology/Water Quality) would reduce indirect impacts on biological resources.</p> <p>BIO-3 Construction Fencing. The applicant shall show the locations of temporary construction fencing with the first submittal of grading plans. Temporary construction fencing (with silt barriers) shall be installed at the limits of project impacts (including construction staging areas and access routes) adjacent to sensitive habitat to prevent sensitive habitat impacts and the spread of silt from the construction zone into adjacent habitats. Fencing may be required at the western end of the project to separate project impacts from the off-site sensitive habitat of Kelly Creek. Fencing shall be installed in a manner that does not impact habitats to be avoided. The applicant shall submit to the City of Carlsbad for approval at least 30 days prior to grading permit issuance, the final plans for project construction. These final plans shall include photographs that show the fenced limits of impact and areas to be impacted or avoided.</p> <p>Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas within the fenced project impact limits. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner to prevent any runoff from entering adjacent open space and shall be shown on the construction plans. Fueling of equipment shall take place within existing disturbed areas greater than 100 feet from Kelly Creek. Contractor equipment shall be checked for leaks prior to operation</p>	Less than significant



Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>and repair, as necessary. “No-fueling zones” shall be designated on construction plans.</p> <p>If work occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the city’s satisfaction. Any impacts that occur to environmentally sensitive areas beyond the approved fence shall be mitigated in accordance with ratios specified in the Carlsbad HMP or as otherwise determined by the City of Carlsbad in coordination with the USFWS, USACE, RWQCB, and/or CDFW. Temporary construction fencing shall be removed upon project completion.</p>	
<p>The project site supports a low-quality drainage ditch that could qualify as non-wetland WOUS subject to USACE jurisdiction pursuant to CWA Section 404, non-wetland waters of the state subject to RWQCB jurisdiction pursuant to CWA Section 401, and unvegetated streambed subject to CDFW jurisdiction pursuant to California FGC Sections 1600 et seq.</p>	Significant	<p>BIO-4 Regulatory Permitting and Compensatory Mitigation. Impacts on all or portions of the unnamed drainage ditch on the project site shall require the following agency notifications and permits prior to approval of the final map:</p> <ul style="list-style-type: none"> • The project applicant shall prepare and submit notification to the USACE for unavoidable impacts on non-wetland WOUS. Based on the USACE’s CWA Section 404 NWP program, project activities would be covered under NWP 29 – Residential Developments, contingent upon waiver of the 300 linear feet limit for this permit. • The project applicant shall prepare and submit a CWA Section 401 Request for Water Quality Certification to the RWQCB for unavoidable impacts on non-wetland waters of the state. • The project applicant shall prepare and submit a California FGC Section 1602 Notification of Lake or Streambed Alteration to the CDFW for unavoidable impacts on unvegetated jurisdictional streambed. <p>If required by the USACE, RWQCB, and/or CDFW in regulatory permits, the project applicant shall implement compensatory mitigation at a minimum ratio of 1:1 for the unavoidable loss of jurisdictional waters, which would include one or a combination of the following measures:</p> <ul style="list-style-type: none"> • The project applicant shall purchase preservation, establishment/ re-establishment, rehabilitation, and/or enhancement credits from a mitigation bank approved by the USACE, RWQCB, and/or CDFW; and/or, 	Less than significant

Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> The project applicant shall implement permittee-responsible preservation, establishment, re-establishment, rehabilitation and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area, and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. 	
Project operation has the potential to result in significant indirect impacts on wildlife potentially using off-site habitat associated with Kelly Creek if lighting is not appropriately shielded and directed downward and away.	Significant	BIO-5 Project Lighting. Prior to issuance of a grading permit or building permit, whichever is applicable for the particular lighting, the applicant shall submit an exterior lighting plan for City Planner approval. All exterior lighting adjacent to off-site habitat associated with Kelly Creek to the west shall be limited to low pressure sodium or alternative sources in the amber spectrum of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from habitat to the maximum extent practicable.	Less than significant
Cultural Resources			
Because of the presence of significant archaeological sites located within 500 feet of the project site boundaries, there is the potential that previously undiscovered archaeological resources could be encountered during grading activities.	Significant	CR-1 The following shall be implemented to minimize impacts on subsurface cultural resources: <ul style="list-style-type: none"> Prior to the commencement of ground-disturbing activities, the project developer shall contract with a qualified professional archaeologist and enter into a pre-excavation agreement, otherwise known as a Cultural Resources Treatment and Tribal Monitoring Agreement, with the San Luis Rey Band of Mission Indians or other Luiseño tribe, for monitoring during ground-disturbing activities. The agreement will contain provisions to address the proper treatment of any tribal cultural resources and/or Luiseño Native American human remains inadvertently discovered during the course of the project. The agreement will outline the roles and powers of the Luiseño Native American monitors and the archaeologist and shall include the provisions below. In some cases, the language below may be modified in consultation with the tribe if special conditions warrant. A copy of said archaeological contract and 	Less than significant



Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>Tribal Monitoring agreement shall be provided to the City of Carlsbad prior to the issuance of a grading permit.</p> <ul style="list-style-type: none"> • A Luiseño Native American monitor shall be present during all ground-disturbing activities. Ground-disturbing activities may include, but are not limited to, archaeological studies, geotechnical investigations, clearing, grubbing, trenching, excavation, preparation for utilities and other infrastructure, and grading activities. • Any and all uncovered artifacts of Luiseño Native American cultural importance shall be repatriated to the Native American tribes, San Luis Rey Band of Mission Indians and Rincon Band of Luiseño Indians, that consulted with the city per AB 52 (“consulting tribes”) for reburial within an appropriate protected location determined in consultation with the tribes and protected by open space or easement, etc., where the cultural items will not be disturbed in the future, and shall not be curated unless ordered to do so by a federal agency or a court of competent jurisdiction. • The archaeologist and Luiseño Native American monitor shall be present at the project’s on-site preconstruction meeting to consult with grading and excavation contractors concerning excavation schedules and safety issues, as well as consult with the principal archaeologist concerning the proposed archaeologist techniques and/or strategies for the project. • Luiseño Native American monitors and archaeological monitors shall have joint authority to temporarily divert and/or halt construction activities. If tribal cultural resources are discovered during construction, all earth-moving activity within and 100 feet around the immediate discovery area must be diverted until the Luiseño Native American monitor and the archaeologist can assess the nature and significance of the find. • If a significant tribal cultural resource(s) and/or unique archaeological resource(s) are discovered during ground-disturbing activities for the project, the consulting tribes shall be notified and consulted regarding the respectful and dignified treatment of those resources. Pursuant to California PRC Section 21083.2(b) avoidance is the preferred method of preservation for archaeological and tribal cultural resources. If, however, the Applicant is able to demonstrate that avoidance 	

Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>of a significant and/or unique cultural resource is infeasible and a data recovery plan is authorized by the City of Carlsbad as the lead agency, the consulting tribes shall be consulted regarding the drafting and finalization of any such recovery plan.</p> <ul style="list-style-type: none"> • When tribal cultural resources are discovered during the project, if the archaeologist collects such resources, a Luiseño Native American monitor must be present during any testing or cataloging of those resources. All collections made by archaeologists will be collected and treated following the guidelines and regulations set forth under 36 CFR 79, federal regulations for collection of cultural materials. If the archaeologist does not collect the tribal cultural resources that are unearthed during the ground-disturbing activities, the Luiseño Native American monitor may, in their discretion, collect said resources and repatriate them to the consulting tribes for dignified and respectful treatment in accordance with their cultural and spiritual traditions. • If suspected Native American human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the San Diego County Medical Examiner has made the necessary findings as to origin. Further, pursuant to California PRC Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. Suspected Native American remains shall be examined in the field and kept in a secure location at the site. A Luiseño Native American monitor shall be present during the examination of the remains. If the San Diego County Medical Examiner determines the remains to be Native American, the Medical Examiner must contact the NAHC within 24 hours. The NAHC must then immediately notify the MLD upon receiving notification of the discovery. The MLD shall then make recommendations within 48 hours of being granted access to the site and engage in consultation concerning treatment of remains as provided in PRC 5097.98. • In the event that fill material is imported into the project area, the fill shall be clean of tribal cultural resources and documented as such. Commercial sources of fill material are already permitted as appropriate and will be culturally sterile. If 	



Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>fill material is to be utilized and/or exported from areas within the project site, then that fill material shall be analyzed and confirmed by an archaeologist and Luiseño Native American monitor that such fill material does not contain tribal cultural resources.</p> <ul style="list-style-type: none"> No testing, invasive or noninvasive, shall be permitted on any recovered tribal cultural resources without the written permission of the consulting tribes. Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis, and conclusions of the monitoring program shall be submitted by the archaeologist, along with the Luiseño Native American monitor's notes and comments, to the City of Carlsbad for approval. Said report shall be subject to confidentiality as an exception to the Public Records Act and will not be available for public distribution. 	
Implementation of the proposed project would result in a potentially significant paleontological resource impact in association with grading/excavation in previously undisturbed areas of the Santiago Formation (high sensitivity).	Significant	<p>CR-2 Prior to the issuance of a grading permit, the project applicant shall enter into a contract with a qualified Principal Paleontologist to monitor the site, and provide a copy of the contract to the City of Carlsbad. The paleontologist shall be present at the project's on-site preconstruction meeting to consult with grading and excavation contractors concerning excavation schedules, safety issues and procedures, and shall monitor all grading that includes initial cutting into any area of the project site, as the project site sits on paleontologically-sensitive Santiago Formation deposit. If any paleontological resources are identified during these activities, the paleontologist shall temporarily divert construction until the significance of the resources is ascertained.</p> <p>CR-3 Paleontological monitoring shall occur only for those undisturbed sediments wherein fossil plant or animal remains are found with no associated evidence of human activity or any archaeological context.</p> <p>CR-4 Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and remove samples of sediments, which are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the</p>	Less than significant

Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>potentially fossiliferous units described above are not present or if the fossiliferous units present are determined by a qualified paleontological monitor to have low potential to contain fossil resources.</p> <p>CR-5 All recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates.</p> <p>CR-6 Specimens shall be identified and curated into an established, accredited, professional museum repository with permanent retrievable storage, such as the San Diego Natural History Museum. The paleontologist shall have a written repository agreement in hand prior to the issuance of a grading permit and initiation of mitigation activities.</p> <p>CR-7 Prior to the release of grading bonds, the paleontologist shall complete a report describing the methods and results of the paleontological monitoring and data recovery program, and file a copy of the report at the San Diego Natural History Museum.</p>	



Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Potential impacts on subsurface human remains resulting from construction of the proposed project may occur during excavation and grading.	Significant	<p>CR-8 If human remains or remains that are potentially human are found during any ground disturbance associated with project development activities, including the archaeological test or data recovery programs, the project proponent and its agents must comply with PRC 5097.98 and California Health and Safety Code 7050.5.</p> <ul style="list-style-type: none"> a) The archaeologist in consultation with the Native American monitor(s) shall ensure reasonable measures are taken so that the discovery location will be protected and secured from further disturbance. b) The archaeological project manager shall notify the County Medical Examiner. c) If the remains are determined by the medical examiner or an authorized representative to be Native American, the medical examiner will notify the NAHC. d) The NAHC will designate and contact the MLD. e) The property owner will provide the MLD with access to the discovery location, which will have been protected from damage. f) The MLD will make a recommendation for treatment of the remains within 48 hours of being granted access to the property. The descendant's preferences for treatment may include the following: <ul style="list-style-type: none"> i) The nondestructive removal and analysis of human remains and items associated with Native American human remains. ii) Preservation of Native American human remains and associated items in place. iii) Relinquishment of Native American human remains and associated items to the descendants for treatment. iv) Other culturally appropriate treatment. g) If the MLD does not make a recommendation within 48 hours, or if the recommendations are not acceptable to the property owner following extended discussions and mediation by the NAHC, the property owner will reinter the remains ad burial items with appropriate dignity on the property, in a location not subject to further subsurface disturbance. The location of reinterment will be protected by at least one of the three following measures: 	Less than significant

Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> i) Record the location with the NAHC or the SCIC. ii) Utilize an open space or conservation zoning designation or easement. iii) Record a reinternment document with San Diego County. h) If multiple human remains are found, extended discussions will be held with the MLD. If agreement on the treatment of these remains is not reached, they will be reinterred in compliance with PRC 5097.98(e). i) If Native American remains are discovered during ground disturbance and are positively identified as such by a representative of the county medical examiner, they will be kept in situ, or in a secure location in close proximity to where they were found, and free from disturbance until a final decision as to treatment and disposition has been made. Any analysis of the remains will occur only on site in the presence of a Luiseño Native American monitor. 	
There are TCRs within a .5-mile radius of the project area. Therefore, there is a reasonable possibility that TCRs may be encountered during the project's ground-disturbing activities. If TCRs are encountered, the proposed project may result in potentially significant impacts on TCRs.	Significant	Mitigation Measures CR-1 and CR-8 (as identified above)	Less than Significant

Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Geology/Soils			
The project site may be prone to liquefaction, landslides, unstable geologic units, and expansive soils. Therefore, the proposed project has a potential to result in a significant geology/soils impact.	Significant	GEO-1 Prior to approval of final engineering and grading plans for the project, the city's Land Development Engineering Department shall verify that all recommendations contained in the <i>Update of the Geotechnical Update Evaluation for Marja Acres</i> (GeoSoils 2018) have been incorporated into all final engineering and grading plans. The city's soil engineer and engineering geologist shall review grading plans prior to finalization to verify plan compliance with the recommendations of the report. All future grading and construction of the project site shall comply with the geotechnical recommendations contained in the geotechnical report. The report identifies specific measures for mitigating geotechnical conditions on the project site and addresses grading, slope stability, foundations, concrete slabs-on-grade, and retaining walls.	Less than significant
Greenhouse Gas Emissions/Climate Change			
No significant impacts on greenhouse gas emissions/climate change were identified.	Less than significant	No mitigation measures are required.	N/A
Hazards and Hazardous Materials			
Given the age of the existing structures on the project site (constructed circa 1950), ACMs and LBP are likely to be present at the project site. The potential presence of ACMs and LBP on the project site is a significant impact on the public and environment, specifically when existing structures are demolished as part of the proposed project.	Significant	HAZ-1 Hazardous Materials Assessment. Prior to the issuance of a demolition permit for the existing buildings, a Hazardous Materials Assessment (surveys) would be performed to determine the presence or absence of ACMs/LBP located in the buildings to be demolished. Suspect materials that would be disturbed by the demolition activities would be sampled and analyzed for asbestos content, or assumed to be asbestos containing. All lead containing materials and ACMs scheduled for demolition must comply with applicable regulations for demolition methods and dust suppression. Lead containing materials and ACMs shall be managed in accordance with applicable regulations. The ACM survey would be conducted by a person certified by the California Division of Occupational Safety and Health. The LBP survey would be conducted by a person certified by the California Department of Health Services. Copies of the surveys would be provided to the	Less than significant

Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		County of San Diego Department of Environmental Health and San Diego Air Pollution Control District once completed.	
Hydrology and Water Quality			
Potential water quality impacts associated with short-term construction activities could result from grading and excavation. These activities could result in potential erosion/sedimentation and discharge of construction-related hazardous materials (e.g., fuels, grease, etc.) into local storm drains.	Significant	WQ-1 Prior to issuance of a grading permit for any phase of the development, the applicant shall prepare and submit for review and approval of the Carlsbad City Engineer, a SWPPP to demonstrate that pollutants will be controlled through compliance with the City of Carlsbad Stormwater Management and Discharge Control Ordinance, General Construction Stormwater Permit (Order No. 2012-0006-DWQ, NPDES CAS000002), and the General Municipal Stormwater Permit (R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, NPDES No. CAS0109266). The applicant shall be responsible for monitoring and maintaining the BMP erosion control measures identified below on a weekly basis in accordance with the city's grading and erosion control requirements (Municipal Code Section 15.16. et seq.). The locations of all erosion control devices shall be noted in the SWPPP referenced on the grading plans. BMPs that shall be installed include, but are not limited to, the following: <ul style="list-style-type: none"> • Silt fence, fiber rolls, or gravel bag berms • Street sweeping and vacuuming • Storm drain inlet protection • Stabilized construction entrance/exit • Hydroseed, soil binders, or straw mulch • Containment of material delivery and storage areas • Stockpile management • Spill prevention and control • Waste management for solid, liquid, hazardous, and sanitary waste-contaminated soil • Concrete waste management 	Less than significant
Once constructed, the proposed project would likely generate certain pollutants commonly found in similar developments that could affect water quality downstream from the project	Significant	WQ-2 Prior to the issuance of grading permits or other approvals for any public or private right-of-way improvements, the developer shall prepare and submit for review and approval of the Carlsbad City Engineer, SWQMP, grading and improvement plans that demonstrate that pollutants will be controlled through compliance with the City of Carlsbad BMP Design Manual. Approval of such plans shall be subject to a determination by the Carlsbad City	Less than significant



Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
site. With the inclusion of the proposed uses, the proposed project has the potential to result in long-term impacts on water quality due to the addition of pollutants typical or urban runoff.		Engineer that the proposed project has implemented an integrated LID approach to meet criteria described in the City of Carlsbad BMP Design Manual. The proposed project has incorporated LID strategies which include site design BMPs, source control BMPs and pollutant control BMPs into the project design to the maximum extent practicable.	
Land Use Planning			
The project site is located within the ALUCP's Airport Overflight Notification Area and Review Area 2 of the AIA. The ALUCP requires that all new residential projects located within the overflight notification area be required to record a notice informing residents of the potential environmental impacts related to the aircraft, and the property is subject to overflight, sight, and sound of aircraft operating from the McClellan-Palomar Airport.	Significant	<p>LU-1 New residents within the McClellan-Palomar Airport Overflight Notification Area as defined by the ALUCP shall be notified as part of the real estate disclosure package that the project site is outside the 60 dB(A) CNEL airport noise impact area, but still subject to intermittent single-event noise impacts, sight, and sound of aircraft operating from McClellan-Palomar Airport. The state statute dictates that the following statement shall be provided:</p> <p>NOTICE OF AIRPORT IN VICINITY: This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.</p> <p>This measure shall be implemented concurrent with the real estate disclosure package. Prior to issuance of building permits, the City of Carlsbad Planning Division shall be responsible for verification of implementation of this measure through the recordation of a Notice.</p>	Less than significant
Noise			
At the age-restricted affordable apartments units and townhome façade locations, exterior noise levels would generally exceed the	Significant	<p>NOI-1 Prior to issuance of building permits for any residential buildings with usable outdoor patio or balcony areas with a direct, unobstructed view of El Camino Real, a noise barrier with heights ranging from 5 to 8 feet as shown on Figure 5: Noise Barrier Heights Necessary to Achieve Exterior Noise Standards Figure</p>	Less than significant

Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
applicable city noise standards for exterior use areas along the first, second and third rows with an unobstructed exposure to El Camino Real.		5.11-3 of this EIR) of the <i>Noise Technical Report for the Marja Acres Community Plan</i> (Dudek 2018), shall be incorporated into the building/architectural plans to mitigate noise impacts. The noise barriers may be constructed of a material such as tempered glass, acrylic glass (or similar material), masonry material, or manufactured lumber (or a combination of these), with a surface density of at least 3 pounds per square foot. The noise barriers shall have no openings, gaps, or cracks, and shall be installed prior to issuance of a certificate of occupancy.	
Future noise levels would range up to 71 dBA CNEL at the north- and northeast-facing sides of the age-restricted affordable apartment units and townhomes with a view of El Camino Real. Thus, the unmitigated interior noise level within the habitable rooms of these locations would exceed the 45 dBA CNEL noise criterion.	Significant	NOI-2 Prior to issuance of building permits for the residential units identified on Figure 6: Units Requiring Subsequent Interior Noise Analysis (Figure 5.11-4 of this EIR) of the <i>Noise Technical Report for the Marja Acres Community Plan</i> (Dudek 2018), a site specific noise study will be required to ensure that the outside noise levels are below 60 dBA CNEL and interior noise levels are below 45 dBA CNEL. Any additional measures identified by the acoustical analysis that are necessary to achieve an interior standard of 45 dBA CNEL shall be incorporated into the building/architectural plans. The buildings will require air-conditioning and/or mechanical ventilation and possibly sound-rated windows to mitigate the interior noise impact.	Less than significant
The HVAC noise levels have the potential to exceed the City of Carlsbad noise standard for stationary source noise at residential uses (55 dBA Leq from 7 a.m. to 10 p.m., 45 dBA Leq from 10 p.m. to 7 a.m.) at the nearest existing noise-sensitive receivers.	Significant	NOI-3 The project applicant shall retain an acoustical specialist to review project construction-level plans to ensure that the equipment specifications and plans for HVAC and other outdoor mechanical equipment incorporate measures, such as the specification of quieter equipment or provision of acoustical enclosures, that will not exceed relevant noise standards at nearby noise-sensitive land uses (e.g., residential). Prior to issuance of building permits, the acoustical specialist shall certify in writing to the City of Carlsbad that the equipment specifications and plans incorporate measures that will achieve the relevant noise limits.	Less than significant

Table 2-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
The proposed rooftop decks that would be located in the southeastern corner of the project on Unit 222L and Unit 223L would not be set back from the edge of the buildings facing south and east. Thus, unless noise mitigation is provided, the noise level at the southeasterly property line would exceed 50 dBA Leq.	Significant	NOI-4 Prior to issuance of building permits for residential units 222L and 223L, 5-foot noise barriers along the northern, southern, and eastern sides of the rooftop decks as shown on Figure 7: Rooftop Deck Locations (Figure 5.11-5 of this EIR) of the <i>Noise Technical Report for the Marja Acres Community Plan</i> (Dudek 2018) shall be incorporated into the building/architectural plans to mitigate noise impacts as a result of rooftop activity to adjacent residential uses. The noise barriers may be constructed of a material such as tempered glass, acrylic glass (or similar material), masonry material, or manufactured lumber (or a combination of these), with a surface density of at least 3 pounds per square foot. The noise barriers shall have no openings, gaps, or cracks, and shall be installed prior to issuance of a certificate of occupancy.	Less than significant
Population/Housing			
No significant impacts on population/housing were identified.	Less than significant	No mitigation measures are required.	N/A
Public Services			
No significant impacts on public services were identified.	Less than significant	No mitigation measures are required.	N/A
Transportation/Circulation			
No significant impacts on transportation/circulation were identified.	Less than significant	No mitigation measures are required.	N/A
Utilities and Services Systems			
No significant impacts on utilities and service systems were identified.	Less than significant	No mitigation measures are required.	N/A

2.3 Areas of Controversy and Issues to be Resolved

2.3.1 Areas of Controversy

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by other agencies and the public. The main comments submitted on the NOP during the public review and comment period are summarized in Table 2-2.

Table 2-2. Summary of Notice of Preparation Comments

Environmental Issue Area	Issues Raised
Visual/Aesthetics	<ul style="list-style-type: none">• Lighting impacts• Impacts on surrounding natural views• Fencing and barriers
Air Quality	<ul style="list-style-type: none">• Air pollution from construction• Increased traffic air pollution
Biology Resources	<ul style="list-style-type: none">• Impacts on potential sensitive species• Impacts on potential hawks and other birds in the project area• Impacts on open space and natural surroundings (lagoon and wetlands)
Cultural Resources	<ul style="list-style-type: none">• Impacts on potential cultural, tribal, and/or paleontological resources
Hazards and Hazardous Materials	<ul style="list-style-type: none">• Concerns regarding hazardous materials potentially present due to historic agricultural use of project site• Construction runoff contaminated with pesticides
Hydrology	<ul style="list-style-type: none">• Concerns regarding proper drainage of re-contoured land• Contamination of lagoon because of increased surface runoff
Land Use/Planning	<ul style="list-style-type: none">• Scale of development• Compatibility with adjacent uses
Noise	<ul style="list-style-type: none">• Noise from new vehicular traffic• Construction noise
Population/Housing	<ul style="list-style-type: none">• Density of proposed development• Increase in population• Increase in elementary school children
Recreation	<ul style="list-style-type: none">• Increase in recreational area usage
Traffic	<ul style="list-style-type: none">• Increase in traffic due to increased population• Consider multimodal mobility• Impacts on emergency providers as a result of congested traffic• Parking
Utilities	<ul style="list-style-type: none">• Water supply

2.3.2 Issues to be Resolved

The CEQA Guidelines Section 15123(b)(3) also requires a discussion of issues to be resolved including a choice of alternatives and whether or how to mitigate the significant effects. Based on all information included in the Record of Proceedings, the city decision-maker must decide whether or not the EIR was prepared in compliance with CEQA (PRC 21000, et. seq.) and Guidelines for Implementation of CEQA (California Code of Regulations [CCR] Section 15000, et seq.). If deemed

compliant with CEQA, the city decision-maker shall certify the EIR and consider whether to approve the proposed project or one of the project alternatives. Furthermore, the city decision-maker must decide if the proposed mitigation is adequate and choose whether or how to mitigate any significant impacts. Alternatives to the proposed project have also been identified that would reduce or avoid the potentially significant impacts associated with the proposed project. The city decision-maker would need to decide to approve one of the alternatives discussed in this EIR instead or approve the proposed project.

2.4 Project Alternatives

The environmental analysis for the proposed project evaluated the potential environmental impacts resulting from implementation of the proposed project, as well as alternatives to the proposed project. The alternatives are summarized below. A detailed discussion of the alternatives to the proposed project is provided in Chapter 6 of this EIR.

- **No Project/No Development Alternative.** This alternative assumes that the project site would not be developed with the proposed project, and the project site would remain in its current condition and current uses.
- **Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative.** This alternative assumes that the project site would be developed pursuant to the existing residential and commercial land use designations, at the maximum density and intensity of the existing *Carlsbad General Plan* and underlying zoning designations of the project site. This alternative would allow a total of 180 dwelling units (which would include 36 age-restricted affordable units), and 45,000 square foot of specialty retail.
- **Reduced Project (No Density Bonus/Growth Management Control Point [GMCP] General Plan Density).** This alternative assumes that the residentially designated portion of the project site would be developed at a GMCP of 12 dwelling units per acre. Under this alternative, approximately 144 attached residential units (townhomes or condominiums) would be developed, on the residential parcel, with approximately 29 units dedicated as affordable units. This alternative would include approximately 25,000 square feet of commercial development on the commercial parcel, consisting of 15,000 square feet of specialty retail and 10,000 square feet of restaurant). No density bonus would be applied under this alternative.
- **Previously-Proposed Plan Alternative.** Under this alternative, 218 dwelling units plus 15 inclusionary (affordable) accessory residential dwelling units for a total of 233 dwelling units, and up to 16,000 square feet of commercial uses would be developed.
- **Alternative Project Location.** This alternative would develop the proposed project on an alternative site location, known as “Sunny Creek.” This alternative site is located at the northwest corner of College Boulevard and El Camino Real. This alternative would include a total of 276 dwelling units. Of the 276 units, 41 would be developed as age-restricted inclusionary housing units and the remaining 235 units would be townhomes. The alternative site would also be developed with 60,000 square feet of commercial uses.

2.4.1 Environmentally Superior Alternative

The No Project/No Development Alternative is considered the environmentally superior alternative to the proposed project as it would avoid the following impacts identified for the proposed project:

biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology and water quality, and land use. However, CEQA Guidelines Section 15126.6(e)(2) states that “if the environmentally-superior alternative is the No Project Alternative, the EIR shall also identify an environmentally-superior alternative among the other alternatives.” As shown in Table 2-3, the Alternative Project Location would be the environmentally superior alternative because this alternative would avoid the potential impact associated with hazardous materials (asbestos-containing materials [ACM] and lead-based paint [LBP]), paleontological resources, and noise (rooftop deck activities).



Table 2-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Aesthetics/Grading	NA	NA This alternative would avoid any grading or topographical alteration of the project site.	NA Grading would be required and similar topographical changes would be necessary as compared to the proposed project.	NA Grading would be required and similar topographical changes would be necessary as compared to the proposed project.	NA Grading would be required and similar topographical changes would be necessary as compared to the proposed project.	NA Grading would be required; however, this site does not contain steep slopes and less topographical change would be required to implement this alternative as compared to the proposed project.
Agriculture and Forestry Resources	NA	NA This alternative would not change the existing conditions of the site, although no agricultural resources are identified on the site.	NA This alternative would change the existing conditions of the site, although no agricultural resources are identified on the site.	NA This alternative would change the existing conditions of the site, although no agricultural resources are identified on the site.	NA This alternative would change the existing conditions of the site, although no agricultural resources are identified on the site.	NA This alternative would change the existing conditions of the site, although no agricultural resources are identified on the alternative location.

Table 2-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Air Quality	NA	NA The existing baseline air emissions would remain the same as no new development would occur.	Greater Construction: Emissions would be greater for VOC and PM _{2.5} as compared to the project. Emissions would be less for NO _x , CO, SO ₂ , and PM ₁₀ as compared to the project. Operation: Emissions of NO _x , SO ₂ , PM ₁₀ and PM _{2.5} would be greater as compared to the project. Emissions of VOC and CO would be less as compared to the project.	Greater Construction: Emissions would be greater for VOC and PM _{2.5} as compared to the project. Emissions would be less for NO _x , CO, SO ₂ , and PM ₁₀ as compared to the project. Operation: Emissions of all criteria pollutants would be less as compared to the proposed project.	Greater Construction: Emissions would be greater for VOC and PM _{2.5} as compared to the project. Emissions would be less for NO _x , CO, SO ₂ , and PM ₁₀ as compared to the project. Operation: Emissions of NO _x , SO ₂ , and PM _{2.5} would be greater as compared to the project. Emissions of VOC, CO and PM _{2.5} would be less compared to the project.	Greater Construction: Emissions would be greater for VOC, PM ₁₀ , and PM _{2.5} as compared to the project. Emissions would be less for NO _x , CO, and SO ₂ as compared to the project. Operation: Emissions of all criteria pollutants would be higher as compared to the proposed project.



Table 2-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Biological Resources	LTSM	<p>Avoid</p> <p>Because no changes to this site would occur, this alternative would avoid potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed.</p>	<p>Similar</p> <p>This alternative would involve site disturbance and, similar to the project, would have potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed, as well as indirect effects such as light spillage into adjacent habitats.</p>	<p>Similar</p> <p>This alternative would involve site disturbance and, similar to the project, would have potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed, as well as indirect effects such as light spillage into adjacent habitats.</p>	<p>Similar</p> <p>This alternative would involve site disturbance and, similar to the project, would have potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed, as well as indirect effects such as light spillage into adjacent habitats.</p>	<p>Greater</p> <p>This alternative is located in a more biologically sensitive area, in proximity to a riparian habitat area with the potential to support sensitive species. Also, development at this location would convert non-native grasslands that have the potential to support raptor foraging.</p>

Table 2-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Cultural Resources	LTSM	Avoid Because no development would occur under this alternative, the potential impact associated with inadvertent discovery would be avoided.	Similar Because grading and development would occur, this alternative would result in a potential impact associated with inadvertent discovery.	Similar Because grading and development would occur, this alternative would result in a potential impact associated with inadvertent discovery.	Similar Because grading and development would occur, this alternative would result in a potential impact associated with inadvertent discovery.	Similar Because grading and development would occur, this alternative would result in a potential impact associated with inadvertent discovery. However, this alternative could avoid paleontological impacts associated with the project, as less grading and deep excavation into geologic formations would be required.
Geology/Soils	LTSM	Avoid Because no additional grading or development would occur, this alternative would avoid the potential geology/soils impact.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.

Table 2-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Greenhouse Gas Emissions/Climate Change	NA	NA The existing baseline GHG emissions would remain the same as no new development would occur.	Greater This alternative would emit 2,951 MTCO ₂ e, which is greater than the proposed project.	Greater This alternative would emit 2,489 MTCO ₂ e, which is greater than the proposed project.	Greater This alternative would emit 2,965 MTCO ₂ e, which is greater than the proposed project.	Greater This alternative would emit 4,188 MTCO ₂ e, which is greater than the proposed project.
Hazards and Hazardous Materials	LTSM	Avoid This alternative would not change the existing conditions of the site.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Less Because no structures are located on the project site, this alternative would avoid the potential impact associated with ACMs and LBP.
Hydrology and Water Quality	LTSM	Avoid This alternative would not change the existing conditions of the site.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.

Table 2-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Land Use Planning	LTSM	Avoid This alternative would not change the existing conditions of the site, therefore no mitigation would be required.	Similar Because new housing/residents would be located at the site under this alternative, the airport noise disclosure requirements would be required.	Similar Because new housing/residents would be located at the site under this alternative, the airport noise disclosure requirements would be required.	Similar Because new housing/residents would be located at the site under this alternative, the airport noise disclosure requirements would be required.	Similar Because new housing/residents would be located at the alternative site under this alternative, the airport noise disclosure requirements would be required.
Noise	LTSM	Avoid This alternative would not change the existing conditions of the site, so there would be no potential to impact existing adjacent sensitive receptors.	Similar This alternative would require similar noise mitigation to maintain interior standards and would have the potential to impact adjacent residences from rooftop noise.	Similar This alternative would require similar noise mitigation to maintain interior standards and would have the potential to impact adjacent residences from rooftop noise.	Similar This alternative would require similar noise mitigation to maintain interior standards and would have the potential to impact adjacent residences from rooftop noise.	Less This alternative would require similar noise mitigation to maintain interior standards; however, it would avoid the potential impact to adjacent residences from rooftop noise.



Table 2-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Population/Housing	NA	NA This alternative would not change the existing conditions of the site, so no new housing would be constructed	NA Because development would occur, this alternative would introduce new population/housing to the project site, although no significant impact would result.	NA Because development would occur, this alternative would introduce new population/housing to the project site, although no significant impact would result.	NA Because development would occur, this alternative would introduce new population/housing to the project site, although no significant impact would result.	NA Because development would occur, this alternative would introduce new population/housing to the project site, although no significant impact would result.
Public Services	NA	NA This alternative would not change the existing conditions of the site.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to public services.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to public services.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to public services.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to public services.

Table 2-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Transportation/Circulation	NA	<p>NA</p> <p>This alternative would not change the existing conditions of the site; therefore there would be no increase in trip generation at the project site.</p>	<p>Greater</p> <p>This alternative would generate 2,540 ADT, approximately 481 more ADT than the proposed project.</p>	<p>Greater</p> <p>This alternative would generate 2,317 ADT, approximately 258 more ADT than the proposed project.</p>	<p>Greater</p> <p>This alternative would generate 2,273 ADT, approximately 214 more ADT than the proposed project.</p>	<p>Greater</p> <p>This alternative would generate 3,447 ADT, approximately 1,388 more ADT than the proposed project.</p>

Table 2-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Utilities and Service Systems	NA	NA This alternative would not change the existing conditions of the site; therefore, there would be no increase in demand for utilities and services systems.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to utilities and service systems.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to utilities and service systems.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to utilities and service systems.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to utilities and service systems.

Notes:

NA=No significant impact identified associated with the project.

LTSM=Less than significant impact with mitigation.

Avoid=Impacts under this alternative avoided as compared to impacts for the proposed project.

Reduced=Impacts under this alternative reduced as compared to impacts for the proposed project.

Similar=Impacts under this alternative similar to impacts for the proposed project.

Greater=Impacts under this alternative greater to impacts for the proposed project.

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3 Project Description

The project applicant, New Urban West Communities, LLC, is proposing a new mixed-use community that will include construction of townhomes, age-restricted apartments, and buildings for commercial uses. The proposed project is located on 20.65 acres of land located in the Northwest Quadrant of the City of Carlsbad, San Diego County.

The project applicant has applied for a number of entitlement applications including a Tentative Tract Map; Planned Development Permits to facilitate individual ownership of units and subdivision of the residential and commercial areas; a Site Development Plan for the affordable housing component of the project and residential uses in the commercial area; a CDP for the redevelopment of a residential and commercial project within the Coastal Zone; an HDP; and an SUP to construct the proposed project along the El Camino Real Corridor.

3.1 Project Location

The proposed project consists of 20.65 acres of land located within Local Facilities Management Zone (LFMZ) 1, in the Northwest Quadrant of the City of Carlsbad, in northern San Diego County. The City of Carlsbad is bordered to the north by the City of Oceanside, to the south by the City of Encinitas, to the east by the cities of Vista and San Marcos, and on the west by the Pacific Ocean. The project site is located approximately two miles east of the Pacific Ocean and 31 miles north of downtown San Diego. Regional access to the project site is provided by I-5 and SR-78. Figure 3-1 depicts the location of the project site in a regional context.

The proposed project would be constructed and located on two parcels (APNs 207-101-35 and 207-101-37) totaling 20.65 acres of land. The project site is located south of El Camino Real, east of Kelly Drive, north of Park Drive, and west of Lisa Street. Figure 3-2 depicts the project site within the local context.

3.2 Project Setting

Elevations of the project site range from approximately 58 feet to 67 feet above mean sea level (AMSL) along the northern portion of the site (i.e., along El Camino Real), rising up to 112 AMSL feet at the site's highest point along the southern boundary.

The project site is currently improved with a small-scale commercial development accessed from El Camino Real, and with one existing home, associated structures, and disturbed land utilized in the past for agriculture. The western portion of the site is occupied by a commercial nursery.

As shown on Figure 3-3, the project site is located within California's Coastal Zone, defined as the area between the seaward limits of the state's jurisdiction and 1,000 yards landward from the mean high tide line. In Carlsbad, the coastal zone boundary generally encompasses the area east of the Pacific Ocean to El Camino Real. The City of Carlsbad's LCP, adopted in 1996, includes the City's land use plans, policies, and standards and an implementing ordinance (the Zoning Ordinance) for the City's Coastal Zone. The City's LCP includes six planning areas or segments that cover approximately one-third of the City. The project site is located within the Mello II Segment of the City of Carlsbad's LCP, and is within the appellate jurisdiction of the California Coastal Commission.

The Robertson Ranch residential and commercial development is currently under construction across El Camino Real to the north of the project site. Existing single-family residential units are located to the west of the project site (along Kelly Drive), and to the south of the site (along Park Drive). A small mobile home park is located to the east of the project site.

Pursuant to the City's Growth Management Program (GMP) and Chapter 21.90 of the CMC, the city is organized into 25 zones. The GMP requires the preparation of Local Facilities Management Plans (LFMP) for the 25 different management zones within the city. The project site is located within LFMP Zone 1 of the GMP. The purpose of the LFMP "...is intended to provide an analysis and establish a plan for supplying the public facilities that will be needed in order to accommodate development within the Zone 1 area of the City through buildout of Carlsbad LFMP Zone 1."

Based on a review of Exhibit III-2 - Compatibility Policy Map: Safety of the McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP), the project site is not located within any airport safety zones as designated in the ALUCP (San Diego County Regional Airport Authority 2011). The project site is located within the ALUCP's Airport Overflight Notification Area and Review Area 2 of the Airport Influence Area (AIA).

Figure 3-1. Regional Location

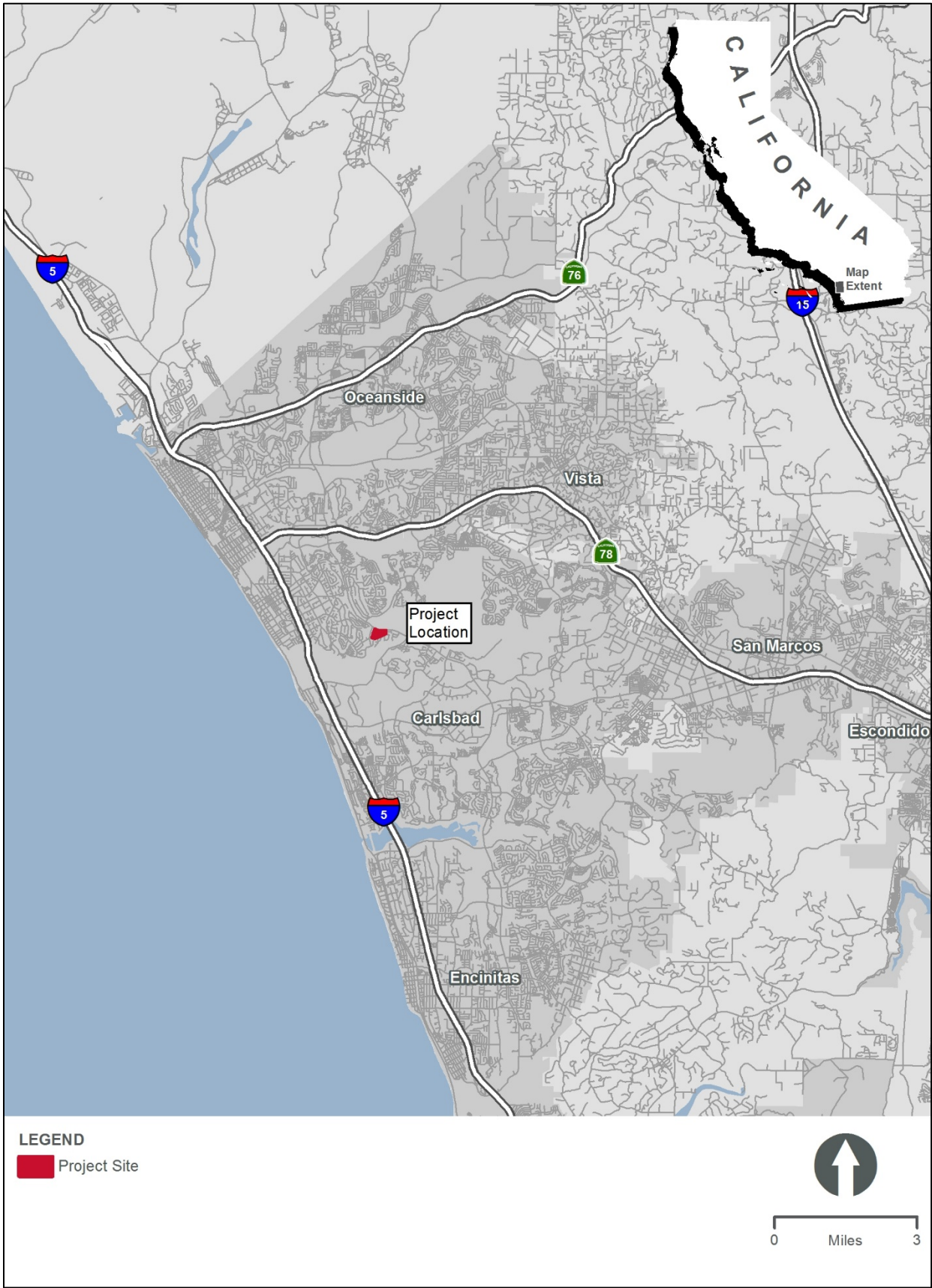
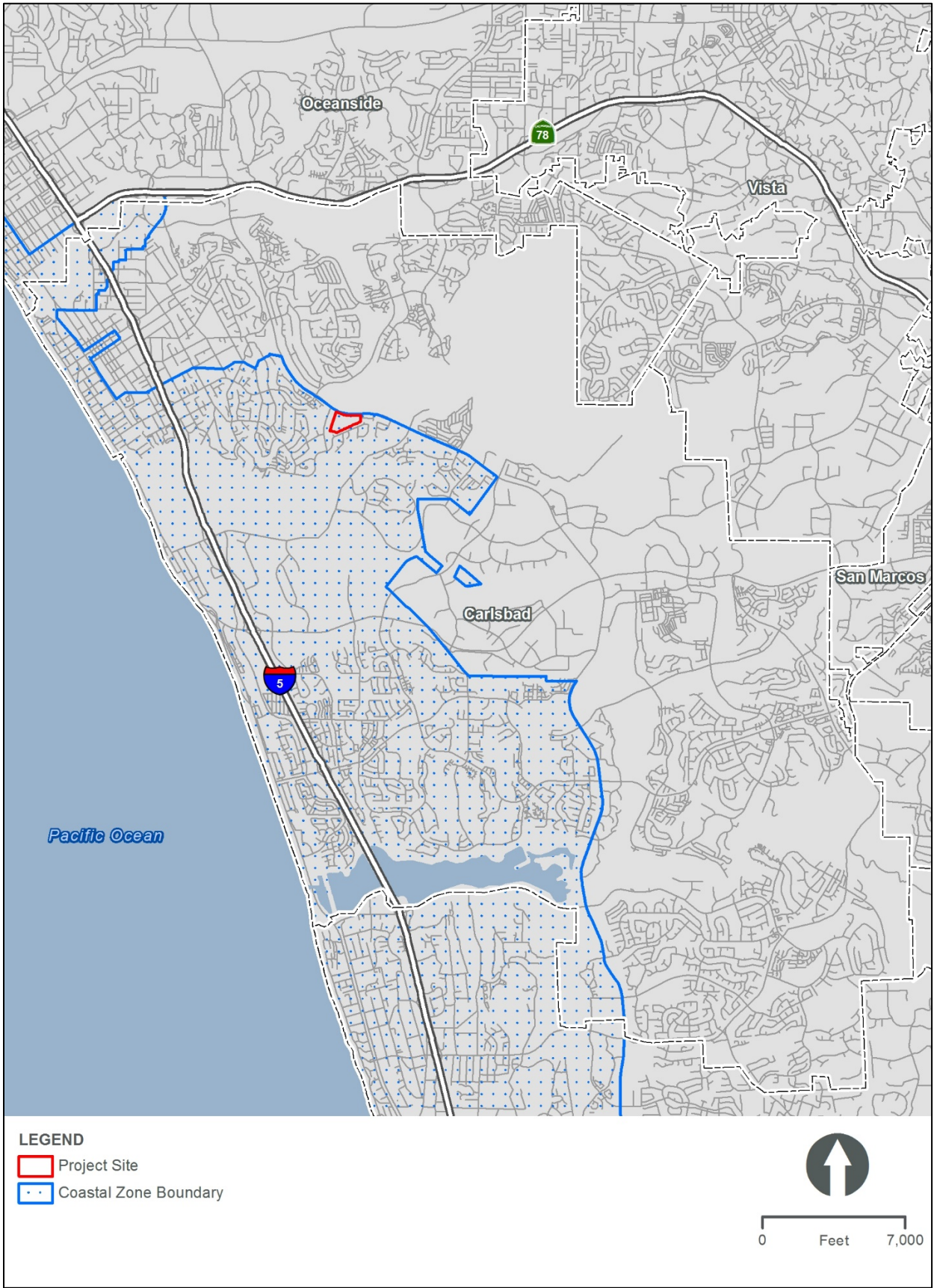


Figure 3-2. Project Site



Figure 3-3. Coastal Zone Boundary



3.3 Project Characteristics

The project site is designated by the Carlsbad General Plan as General Commercial (GC) and R-15 Residential (R-15). Areas with the R-15 designation are intended to be developed with housing at a density between 8 to 15 dwelling units per acre. The adoption of the Carlsbad General Plan included a requirement that the R-15 parcel on the project site be developed at a density of at least 12 units per acre. In addition, the R-15 parcel is required to provide 20 percent of the units as affordable housing, compared to the city's standard inclusionary requirement of 15 percent. Housing types allowed in the R-15 designation may include two-family dwellings (two attached dwellings, including one unit above the other) and multi-family dwellings (three or more attached dwellings); detached single-family dwellings may be permitted on small lots or when developed as two or more units on one lot, subject to specific review and community design requirements.

The GC designation includes sites that provide general commercial uses that may be neighborhood serving and/or serve a broader area of the community than local shopping centers. Sites with this designation may be developed with a stand-alone general commercial use, two or more general commercial uses, or mixed use (general commercial uses and residential dwellings, with residential density to be 15 dwelling units per acre at a minimum based on 25 percent of the site's developable acreage).

The project site is zoned Residential Density-Multiple (RD-M) and General Commercial (C-2). The intent and purpose of the RD-M zone is to implement the residential medium density, residential medium-high density and residential high-density land use designations of the Carlsbad General Plan and to provide regulations and standards for the development of residential dwellings. The C-2 zone provides regulations and standards for the development of general commercial uses that serve the local community. Permitted uses in the C-2 zone include a range of retail, wholesale, and service uses, as well as residential uses.

The proposed project includes the development of 296 total dwelling units, of which 237 would be townhomes within the R-15 Carlsbad General Plan designated area. Located within the GC-designated area would be 46 age-restricted affordable apartments, 13 townhomes, a 4,000-square-foot restaurant pad and a 6,000-square-foot retail pad area. The residential breakdown of the proposed project is shown in Table 3-1. Figure 3-4 illustrates the overall site plan for the proposed project.

Table 3-1. Proposed Residential Unit Mix

Parcel	General Plan Designation	Units		Total Units
		Townhomes	Age-Restricted Affordable Apartments	
Parcel 1	GC	13	46	59
Parcel 2	R-15	237	0	237
Total				296

Figure 3-4. Site Plan



3.3.1 Total Allowed Units

General Plan

Each of the city's residential land use designations specifies a density range that includes a minimum density, maximum density, as well as a Growth Management Control Point (GMCP) density (the GMCP density ensures residential development does not exceed the number of dwellings permitted in the city's Growth Management Plan). As shown in Table 3-2, at the upper end of the Carlsbad General Plan's allowable density range, a total of 224 dwelling units would be allowed on the project site based on: a) the maximum density for the net developable acreage of the residentially-zoned parcel; and b) the allowable 25 percent of residential for a mixed-use development on the commercially-zoned parcel.

Density Bonus

The number of total dwelling units proposed on the project site (296 units) exceeds what is allowed on the project site at the upper end of the Carlsbad General Plan's allowable density range (224 units). In order to reach the proposed 296 dwellings units, the project applicant would utilize the opportunities provided by state law and the Residential Density Bonus and Incentives or Concession section of the Zoning Ordinance (Chapter 21.86 of the CMC), which implements California Government Code Sections 65915 – 65918). This allows up to a 35 percent increase in the number of units beyond the maximum base level Carlsbad General Plan density calculations. As shown in Table 3-2, 80 density bonus units are allowed on the project site with the 35 percent density bonus provisions. The additional 80 density bonus units would increase the total allowable units from 224 to 304. While the project site could be developed with a total of 304 units (with the density bonus provisions), the project applicant is requesting 72 density bonus units (8 fewer units than the total allowed under the density bonus provisions [80]), for a total of 296 residential units.

3.3.2 Excess Dwelling Units

City Council Policy 43 is the established policy for the number and allocation of Proposition E (Growth Management) "excess" dwelling units. Policy 43 establishes the city's policy regarding the number and the criteria for allocation of "excess" dwelling units which have become available as a result of residential projects being approved and constructed with less dwelling units than would have been allowed by the density control points of the GMP as approved by the voters as Proposition E on November 4, 1986.

As shown in Table 3-2, at the lower end of the Carlsbad General Plan's allowable density range, a total of 144 dwelling units would be allowed on the R-15 parcel. Although the actual net acreage of the residentially-zoned parcel would allow 144 dwelling units, the total number of units allocated as a result of the Carlsbad General Plan land use change was 135 dwelling units, so 135 units is the baseline. In order to reach the proposed 296 dwellings units, the project applicant is requesting a withdrawal of 161 dwelling units from the city's Excess Dwelling Unit Bank (296 proposed units - 135 units allocated by General Plan = 161 units). No residential units were assumed or allocated with the Carlsbad General Plan update for commercial sites.

Table 3-2. Project Site Density Calculations – Total Allowed Units

Parcel	General Plan Designation	Gross Acres	Net Acres	Minimum Density Range/ GMCP - du/ac	Minimum Density Range Dwelling Units ¹	Maximum Density Range - du/ac	Maximum Density Range Dwelling Units ¹	35% Density Bonus Units for Maximum Density ²	Total Allowed Units
Parcel 1	GC	6.26	5.73	15.0	21	30.0	43	16	59
Parcel 2	R-15	14.39	12.04	12.0	144	15.0	181	64	245
		20.65			165		224	80³	304⁴

Notes:

¹ Parcel 1 is a commercial parcel and the density calculations are based on 25% of the net acres.

² Density Bonus Units are rounded up to the next whole number.

³ The project applicant is requesting 72 density bonus units (8 fewer units than the total allowed under the density bonus provisions [80]).

⁴ The project applicant is proposing the development of 296 total units.

du/ac=dwelling unit per acre

3.3.3 Townhomes in Residentially-Zoned Area

The proposed project's residential zone townhome component includes 237 townhomes with a variety of building configurations (3-plex to 10-plex) and unit sizes. Figure 3-5 depicts the distribution of the variety of building configurations on the project site. As shown on Figure 3-5, smaller buildings (three-plex and four-plex) are proposed to be located along the southern portion of the project site while the larger building configurations would be strategically located in the interior of the project site. The proposed grading concept would place the residential units along the southern perimeter of the project site at an elevation such that residents of the new residential structures would not "look down" onto the backyards of the existing single-family properties located immediately to the south of the project site.

The townhomes will be no more than three stories and up to 35 feet in height, some with allowable protrusions above 35 feet per CMC Section 21.46.020 for stairwells and parapets. These units include three-bedrooms, and range in size from 1,700 to 2,350 square feet. Figure 3-6, Figure 3-7, and Figure 3-8 depict elevations of the proposed townhomes.

All units will have direct access from the interior of the unit to a private two-car garage. Private storage will also be provided in the garage. Visitor parking will be provided along the primary private loop road and will be well above the ratio of one visitor space for every four units as required by the CMC Planned Development Ordinance (Chapter 21.45).

3.3.4 Townhomes in Commercially-Zoned Area

As shown on Figure 3-5, there are 13 townhomes proposed in the commercially-zoned area. These townhomes will be of similar layouts and scale as the townhomes in the residential area; however, these units will be more complementary in style and architecture to the commercial buildings.

Figure 3-5. Townhome Building Locations

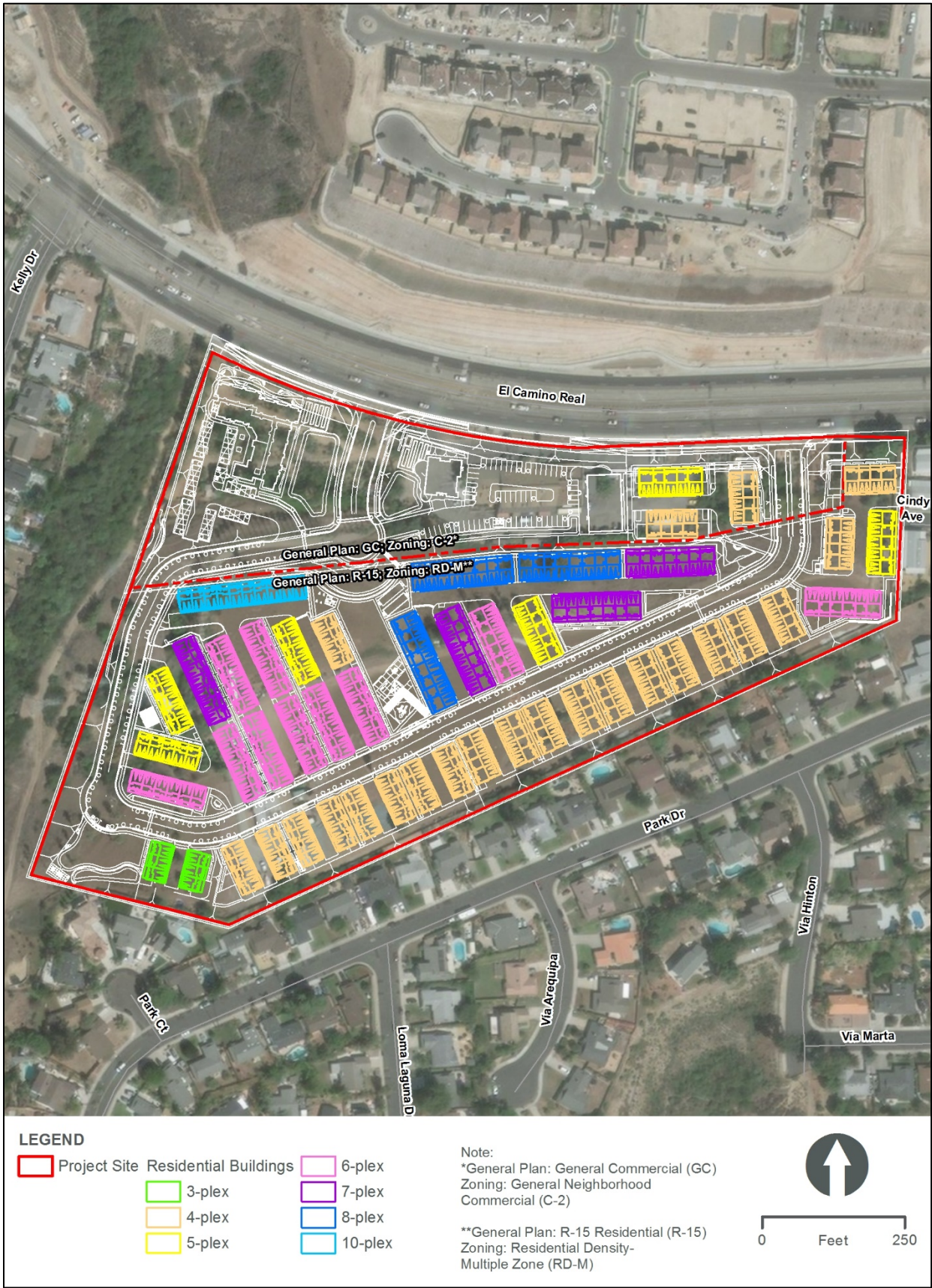


Figure 3-6. Four-Plex Townhome Elevations



Figure 3-7. Six-Plex Townhome Elevations



Figure 3-8. Eight-Plex Townhome Elevations



3.3.5 Age-Restricted Inclusionary Housing

In accordance with Chapter 21.85 of the Carlsbad Municipal Code, the proposed project will meet the requirements of the Inclusionary Housing Ordinance by designating an area within the project site for age-restricted affordable housing. In accordance with Table A in Section 21.86.040 of the CMC, the project applicant is requesting a 35 percent density bonus. The approval of the Carlsbad General Plan required the project site to provide a minimum of 20 percent affordable housing. Therefore, 20 percent of the base number of units must be designated for inclusionary housing and will be rented to age-restricted households in the lower income levels. As shown in Table 3-3, the number of base units is 224 units. At 20 percent of 224 units, the total required inclusionary units must be 45 units as shown in Table 3-3. As proposed, the project would provide 46 affordable housing units. The development of the inclusionary housing units will also comply with CMC Chapter 21.84 – Housing for Senior Citizens. A formal Affordable Housing Agreement will be prepared and approved prior to the approval of the first final map.

Table 3-3. Inclusionary Housing Unit Requirement

Inclusionary Housing Calculation	
Base Units - Commercial Area	43 Dwelling Units
Base Units – Residential Area	181 Dwelling Units
Total Base Units	224 Total Base Units
Inclusionary Housing Calculation (20 percent X 224 Base Units rounded up)	45 Inclusionary Units ¹

Notes:

¹ The proposed project is required to provide 45 inclusionary units in accordance with the Inclusionary Housing Ordinance. The proposed project will provide 46 inclusionary units.

As shown on Figure 3-4, the 46 age-restricted affordable apartments will be located in one building adjacent to El Camino Real and the primary entrance to the site within the commercial area. The units will be studio, one bedroom, and two bedroom homes and may range in size from 525 square feet up to 750 square feet. Due to the provision of age-restricted inclusionary housing, none of the inclusionary housing units will include three bedrooms. Figure 3-9 depicts the elevations of the proposed affordable senior apartment building.

3.3.6 Commercial Uses

As shown on Figure 3-4, the proposed project would include a 4,000-square-foot restaurant pad and a 6,000-square foot retail pad area within the commercially designated area of the project site. The actual square footage of the constructed retail and restaurant space may vary depending on the future design of the commercial area. Figure 3-10 depicts the elevations of the proposed retail building. Figure 3-11 depicts the elevations of the proposed restaurant building.

Figure 3-9. Affordable Senior Apartment Building Elevations



Figure 3-10. Retail Building Elevations

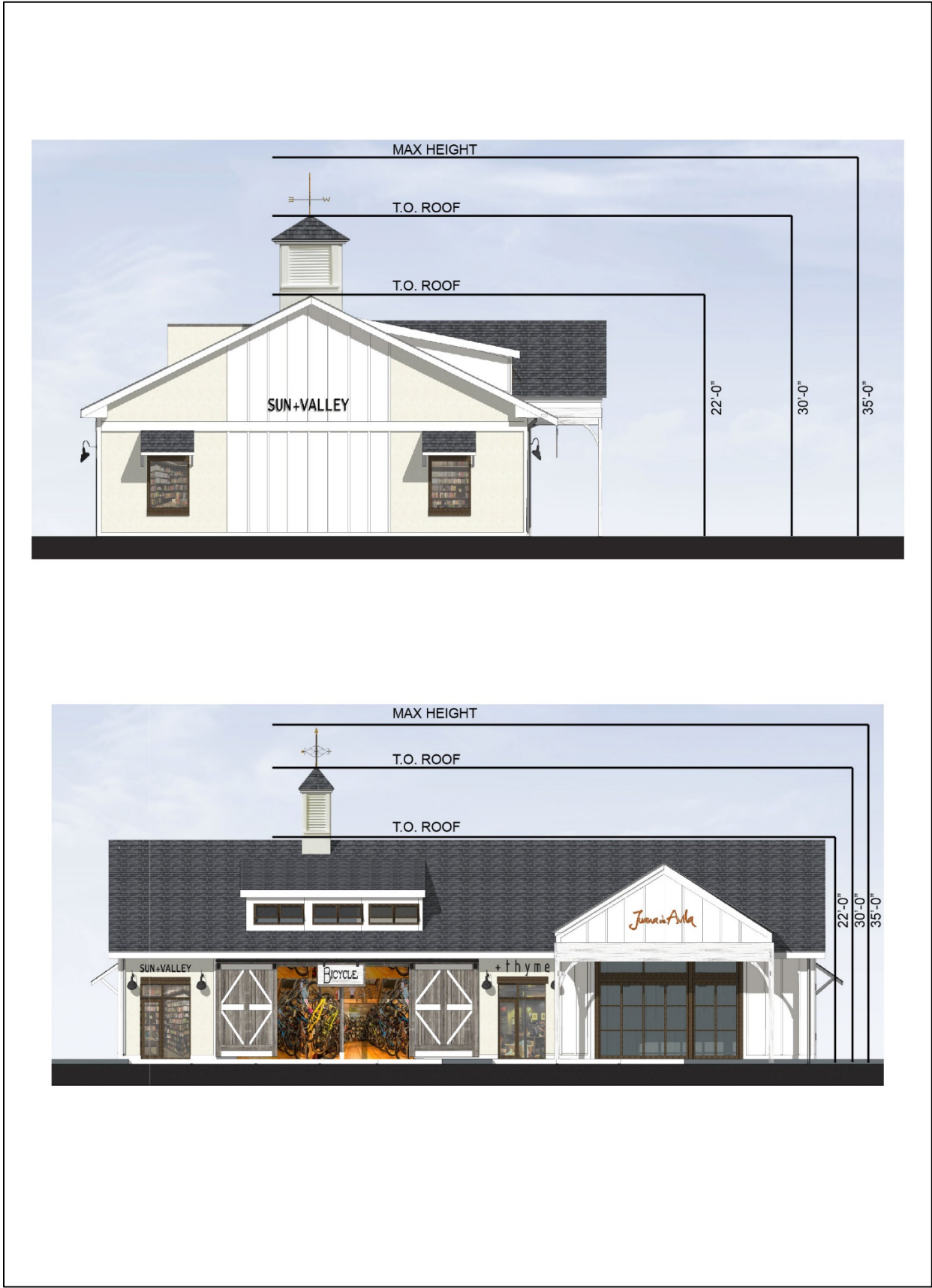


Figure 3-11. Restaurant Building Elevations



3.3.7 Landscape Plan

The policies, programs, and requirements of the City of Carlsbad's Landscape Manual apply to all public and private development requiring discretionary permits or submittal of landscape plans for development permits. The proposed project is required to comply with the provisions of the Landscape Manual with respect to planting, irrigation, water conservation, streetscape, slope revegetation/erosion control, and fire protection. Furthermore, the city will review detailed landscape construction plans at the time permits (i.e., grading and building) are applied for as part of the subsequent development of the proposed project. The project's landscape concept plan is illustrated on Figure 3-13.

3.3.8 Community Recreational Space

Per Section 21.45.060 of the CMC, 200 square feet of community recreational space is required per unit on the portion of the project site designated as R-15. A minimum of 75 percent of the community recreational space is required to be allocated for active recreational facilities. Community recreational space would be provided as both passive and active recreational facilities for a variety of age groups. As shown on Table 3-4, the proposed project would provide 35,965 sf of active recreational facilities and 14,179 sf of passive recreational facilities on the residential portion of the project site (Figure 3-13; Common Area Spaces 1 through 7).

On the commercially-designated portion of the project site, the proposed project would provide 3,710 sf of passive recreational facilities (Figure 3-13; Common Area Space 8).

Table 3-4. Community Recreation Area Summary

Use	Number of Units	SF/Unit Required	Minimum Active Area (sf) Required	Minimum Passive Area (sf) Required	Active Area (sf) Provided	Passive Area (sf) Provided
General Plan – Residential (R-15)						
Large Townhomes	115	200	17,250	5,750	17,451	8,026
Small Townhomes	122	200	18,300	6,100	18,514	6,153
Total			35,550	11,850	35,965	14,179
General Plan – Commercial (GC)						
Age-Restricted Affordable Apartments	46	20	N/A	920	N/A	3,710
Townhomes	13	N/A	N/A	N/A	N/A	N/A
Total			N/A	N/A	920	3,710

Notes:
SF=square feet

3.3.9 Private Recreational Space

The proposed project would provide private recreational spaces in the form of balconies, patios, and optional roof decks per Section 21.45.080 of the CMC. Figure 3-12 shows the units with proposed roof top decks.

Figure 3-12. Rooftop Deck Locations



3.3.10 Circulation and Access

Vehicular access to the project site will be provided at two entry points from El Camino Real. The main entry will be located on the western portion of the project site and will include a landscaped median. This entry point will provide for right-in and right-out access only, and will include a deceleration lane on El Camino Real. The secondary project site entry is also proposed from El Camino Real, and would be located on the eastern portion of the site. This second entry point will also provide for right-in and right-out access only and includes a deceleration lane. Both vehicular site access locations provide for appropriate sight distance in accordance with city codes and policies.

Access to the commercial and age-restricted uses will be provided via the project site internal private street and private driveways. Access to the residential portions of the proposed project will be provided via the private loop street and private drive aisles.

All private streets will contain sidewalks for safe pedestrian circulation. Other sidewalks and pathways will be provided for internal pedestrian circulation between the residential areas, commercial area, and recreational areas.

El Camino Real in the project vicinity was recently improved to its buildout 6-lane Arterial Street standard as part of the Robertson Ranch development located across the street from the proposed project. As such, intersection configurations, lane widths, bike lane and bus stop configurations, pedestrian sidewalk and crosswalk facilities are considered built out to city standards.

3.3.11 Grading

The current land elevations range from approximately 58 feet to 67 feet AMSL along El Camino Real raising up to 112 feet AMSL at the highest point along the southern border of the project site. The current slope alignment is generally in an east to west direction.

Grading and earthwork will be required to modify the existing sloping, hillside topography for residential and commercial development. The proposed project will require approximately 255,549 cubic yards of cut and approximately 186,446 cubic yards of fill. Approximately 69,103 cubic yards would be exported. Efforts will be made toward creating balanced earthwork. Final grading will be governed by the final grading plan. Grading will conform to the Carlsbad Development Code, Chapter 15.16, Grading and Erosion Control. The Development Code contains rules and regulations to control excavation, grading, and earthwork.

The proposed grading concept and design of the project site would maintain the slope alignment in an east to west direction, but would decrease the extent of the slope heights, which ultimately enhances the view of the site from El Camino Real.

Consideration of the existing residential character of the surrounding area was an influential factor in developing the overall grading concept for the project site. In examining the development potential of the area, these features, as well as other significant opportunities and constraints, including geology and property access, were fully considered in the design of the proposed project.

Additionally, in order to maximize the privacy of the existing adjacent homes, the higher topographical elevations of the site located along the southern portion of the site will be lowered significantly to improve the project's compatibility with the surrounding area. Lowering the topographical elevations along this portion also accommodates the privacy concerns expressed by

existing adjacent residents. The lowering of the topography in the southern portion of the site to address privacy concerns results in an increase in the volume of the project site grading.

3.3.12 Density Bonus Incentives and Waivers

The city's Residential Density Bonus and Incentives or Concession Ordinance (CMC § 21.86) and the California State Density Bonus Law (Government Code §§ 65915 – 65918) seeks to encourage the development of affordable housing by offering incentives and concessions to projects that provide on-site affordable housing.

By providing 20 percent of the units as affordable, the proposed project is entitled to two incentives. First, the applicant has requested an award of 163 dwelling units from the city's Excess Dwelling Unit Bank. Council Policy 43 states that allocation of excess dwelling units is an allowable incentive in the city. Second, the applicant has requested permission to construct a horizontal, rather than vertical, mixed-use development on the commercial parcel. Specifically, the applicant is requesting that CMC Section 21.28.015(A), which requires that mixed-use development in the C-2 zone include nonresidential uses on the ground floor and residential uses above the ground floor, not be applied to the proposed project.

As shown on Table 3-5, the applicant also requests the following six waivers from applicable development standards.

Table 3-5. Waiver Requests

Requested Waiver	Development Standard	Proposed Project
Building Setback	CMC § 21.45.080	10' landscaped parkway, sidewalk and landscaped buffer area between curb and buildings
Retaining Wall Height	CMC § 21.95.140(C)(1)	Maximum retaining wall height of 23'; all retaining walls exceeding 6' in height are not visible from the public right of way
Secondary Residential Uses	CMC § 21.28.015(C)(2)	Mix of residential and commercial uses on the C-2 designated parcel
Parkway and Sidewalk Width	CMC § 21.45.060	Parkways - 3.5' – 5' Sidewalks – 4' – 4.5'
Maximum Cut and Fill	El Camino Real Corridor Development Standard Section IV(B)	Fills exceeding 10 feet
Grading Volume	CMC § 21.95.040(d)(2)	Earthwork exceeding 10,000 cubic yards/acre to maintain privacy for adjacent existing homeowners

Figure 3-13. Landscape Plan



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3.4 Project Objectives

The project applicant has identified the following objectives for implementing the proposed project:

- Promote the construction of workforce housing near existing employment centers, infrastructure, and public utilities.
- Provide a quality residential community of attached single-family homes attainably priced for young families and professionals.
- Provide low-income and very-low income age-restricted affordable housing to implement the *Carlsbad General Plan* and statewide housing goals.
- Redevelop and infill site identified in the city's Housing Element as underutilized with much-needed housing and neighborhood commercial uses.
- Design and implement a walkable mixed-use community that provides a balance of affordable and market rate housing connected to community gathering areas and commercial amenities.
- Create a new mixed-use community consistent with the goals and policies of the *Carlsbad General Plan* and LCP.
- Facilitate the establishment and operation of a community garden and vegetable stand to serve residents, as well as visitors to the proposed project's commercial and gathering spaces.
- Provide pedestrian-scale, economically viable neighborhood commercial uses that serve proposed project residents and visitors while also paying homage to past uses and structures on the site.
- Provide neighborhood recreational and open space amenities that will induce residents to minimize travel, resulting in a reduction of GHG emissions.
- Design a community that encourages social interaction by integrating land use types and mobility within the community.
- Utilize context sensitive grading techniques and project design features to ensure compatibility with adjacent residential land uses.

3.5 Project Approvals

3.5.1 Actions and Approvals by the City of Carlsbad

In conformance with Sections 15050 and 15367 of the State CEQA Guidelines, the City of Carlsbad has been designated as the "lead agency," which is defined as, "the public agency which has the principal responsibility for carrying out or approving a project." The following identifies the discretionary actions and approvals by the city for the proposed project.

- **Tentative Map (CT 16-07).** The Applicant is requesting approval of a Tentative Tract Map required for development of the proposed project site. A tentative tract map is required by the California Subdivision Map Act (Government Code §66426 et seq.)

- **Planned Development Permit – Residential (PUD 16-09).** The Applicant is requesting a PUD to facilitate individual ownership of units and subdivision of the residential areas.
- **Planned Development Permit - Nonresidential (PUD 2018-0007).** The Applicant is requesting a nonresidential PUD to facilitate individual ownership of commercial and age-restricted lots, and mixed-use-residential units, along with subdivision of the commercial site.
- **Site Development Plan (SDP 2018-0001).** An SDP is required for the age-restricted affordable housing component of the proposed project and for the proposed residential uses located with the General Commercial zone.
- **Coastal Development Permit (CDP 16-33).** A CDP is required to construct the proposed project. This permit is necessary as the project site is located in the Coastal Zone within the Mello II Segment of the LCP, and is within the appellate jurisdiction of the California Coastal Commission.
- **Hillside Development Permit (HDP 16-02).** Grading of the proposed project site is subject to the city's Hillside Development Ordinance as project areas contain hillside conditions that are defined as slopes greater than 15 feet in height and 15 percent in slope. The purpose of the HDP is to regulate grading per the city's Hillside Development Ordinance (Municipal Code Chapter 21.95) standards and policies.
- **Special Use Permit (16-02).** The project site is located along El Camino Real within the Scenic Preservation Overlay and is subject to the El Camino Real Corridor Development Standards. Thus, an SUP is required for the proposed project.
- **Final EIR Certification (EIR 2017-0001).** After the required public review of the Draft EIR, the city will respond to comments, edit the document, and produce a final EIR to be certified by the city decision-maker as complete and providing accurate information concerning the environmental impacts from the implementation of the proposed project.

3.5.2 Discretionary Actions and Approvals by Other Agencies

The project site supports a low-quality drainage ditch that could qualify as non-wetland WOUS subject to USACE jurisdiction pursuant to CWA Section 404, non-wetland waters of the state subject to RWQCB jurisdiction pursuant to CWA Section 401, and unvegetated streambed subject to CDFW jurisdiction pursuant to California Fish and Game Code Sections 1600 et seq. The proposed project will require the following agency notifications and permits:

- **USACE** - The project applicant shall prepare and submit notification to the USACE for unavoidable impacts to non-wetland WOUS. Based on the USACE's CWA Section 404 NWP program, project activities would be covered under NWP 29 - Residential Developments, contingent upon waiver of the 300 linear feet limit for this permit.
- **RWQCB** - The project applicant shall prepare and submit a CWA Section 401 Request for Water Quality Certification to the RWQCB for unavoidable impacts to non-wetland waters of the state.
- **CDFW** - The project applicant shall prepare and submit a California Fish and Game Code Section 1602 Notification of Lake or Streambed Alteration to the CDFW for unavoidable impacts to unvegetated jurisdictional streambed.

4 Environmental Setting

The following provides a general description of the environmental setting of the project site and surrounding area. Information developed for the setting was established at the time of release of the NOP (Appendix A of this EIR). Please refer to Sections 5.1 through 5.15 for a detailed description of the environmental setting as it relates to each environmental topic analyzed in the EIR.

4.1 Project Location, Surrounding Land Uses and Site Characteristics

The project site is comprised of 20.65 acres of land located in the Northwest Quadrant of the City of Carlsbad, in northern San Diego County. The City of Carlsbad is bordered to the north by the City of Oceanside, to the south by the City of Encinitas, to the east by the cities of Vista and San Marcos, and on the west by the Pacific Ocean. The project site is located approximately 2 miles east of the Pacific Ocean and 31 miles north of downtown San Diego. Regional access to the project site is provided by I-5 and SR-78. The proposed project is specifically located south of El Camino Real, east of Kelly Drive, north of Park Drive, and west of Lisa Street.

Topographically, the project site consists of a relatively flat lying upper mesa area within the southern portion of the site. Along the northern edge of the mesa, moderate slopes descend northward toward a relatively flat lying “bottom,” or alleviated area, located between the slope and the existing alignment of El Camino Real. Elevations of the project site range from approximately 58 feet to 67 feet AMSL along the northern portion of the site (i.e., along El Camino Real), rising up to 112 feet AMSL at the site’s highest point along the southern boundary.

The project site is currently developed with small-scale commercial uses accessed from El Camino Real, and with one existing home, associated structures, and disturbed land that was utilized in the past for agriculture. The western portion of the project site is occupied by a commercial nursery.

The Robertson Ranch residential and commercial development is currently under construction across El Camino Real to the north of the project site. Existing single-family residential units are located to the west of the project site (along Kelly Drive), and to the south of the site (along Park Drive). A small mobile home park is located to the east of the project site. The homes along Kelly Drive are separated from the proposed development by a private parcel and a San Diego Gas and Electric (SDG&E) transmission line easement. The homes along Park Drive, consisting of one- and two-story homes, are located immediately south of the project site. Three mobile homes border the project site on the east. Located beyond the homes to the south is designated open space that leads to the Agua Hedionda Lagoon approximately 0.7 mile southwest of the project site.

The project site is located within California’s Coastal Zone, defined as the area between the seaward limits of the state’s jurisdiction and generally 1,000 yards landward from the mean high tide line. In the city, the coastal zone boundary generally encompasses the area east of the Pacific Ocean to El Camino Real. The City of Carlsbad’s LCP, adopted in 1996, includes the city’s land use plans, policies, and standards and an implementing ordinance (the Zoning Ordinance) for the city’s Coastal Zone. The city’s LCP includes six planning areas or segments that cover approximately one-third of the city. The project site is located within the Mello II Segment of the City of Carlsbad’s LCP, and is within the appellate jurisdiction of the CCC.

Vegetation communities or land cover types identified on-site include ornamental/non-native vegetation, disturbed habitat, disturbed habitat/disc'd land, and urban/developed land. The project site is subject to regular disturbance as a result of the existing and historic uses, which include a mix between previous (historic) agriculture and current commercial/retail uses. The disturbed land in the north, west, and southern portion, and urban/developed land in the north and western portion of the project site, are all subject to regular human activity. The undeveloped portions of the project site have been routinely disc'd. The developed portions of the project site are currently maintained for commercial/retail use.

5 Environmental Analysis, Impacts, and Mitigation

For each environmental issue area, this section presents the existing conditions, regulatory setting, thresholds for determining significance, potential impacts of the proposed project, mitigation measures that would reduce significant impacts, and the level of significance after implementation of mitigation.

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5.1 Aesthetics/Grading

The visual resources of a given area consist of landforms, vegetation, water features, historic resources, and cultural modifications (physical change to the land caused by human activities) that give an overall visual impression of the area landscape.

The term “viewshed” refers to the visual qualities of the geographical area that are defined by the horizon, topography, natural features, and man-made development of a given area. Viewshed terminology used to define the distance from where the photograph is being taken and the distance to the geographic features for this discussion include the following:

- Foreground – Approximate distance of up to 0.13 mile (660 feet)
- Mid-ground – Approximate distance from 0.13 mile (660 feet) and up to 0.25 mile (1,320 feet)
- Background – Approximate distance from 0.25 mile up to 0.5 mile (2,640 feet)

5.1.1 Existing Conditions

The project site is currently developed with small-scale commercial uses accessed from El Camino Real, and with one existing home, associated structures, and disturbed land that was utilized in the past for agriculture. The western portion of the project site is occupied by a commercial nursery.

Topographically, the project site consists of a relatively flat lying upper mesa area within the southern portion of the site. Along the northern edge of the mesa, moderate slopes descend northward toward a relatively flat lying “bottom,” or alleviated area, located between the slope and the existing alignment of El Camino Real. Elevations of the project site range from approximately 58 feet to 67 feet AMSL along the northern portion of the site (i.e., along El Camino Real), rising up to 112 feet AMSL at the site’s highest point along the southern boundary.

Scenic Resources and Vistas

Scenic vistas in Carlsbad consist of the scenic corridors and views to and from the coastline, open spaces, and hillsides. Natural areas and open spaces, including watershed features, hillsides, habitats, parks and vistas, are some of the most defining and integral components of the city’s form and structure. Watershed drainages give Carlsbad its rolling topography in the east, resulting in areas with steep slopes ideal for protected habitat. Hillsides layered with trees and brush create unique, intimate spaces where many of Carlsbad’s master planned communities and resorts are located. The project site is located adjacent to El Camino Real, which is the city’s designated scenic corridor.

Scenic Highways

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, no designated State scenic highways are located in the vicinity of the project site (Caltrans 2011).

5.1.2 Regulatory Setting

State

California Scenic Highways Program

The California Scenic Highways Program protects the value of scenic areas and the value of views from roads within California. The California State Legislature established the California Scenic Highway Program in 1963. This legislation sees scenic highways as "a vital part of the all-encompassing effort...to protect and enhance California's beauty, amenity, and quality of life." Under this program, a number of state highways have been designated as eligible for inclusion as scenic routes. No designated scenic highways are located within Carlsbad.

California Coastal Act

The California Coastal Act authorizes the State of California to regulate development within the State Coastal Zone, defined as the area between the seaward limits of the state's jurisdiction and 1,000 yards landward from the mean high tide line. In Carlsbad, the coastal zone boundary generally encompasses the area east of the Pacific Ocean to El Camino Real. While scenic resources are not specifically mentioned, Public Resources Code Section 30001.5 calls to "protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources."

Local

Carlsbad Zoning Ordinance

The city's Municipal Code does not have a specific section dedicated to prevention of nuisance light and glare through regulation; rather, lighting is addressed for each land use type in the city's Zoning Ordinance (Municipal Code Title 21). For example, Sections 21.21.160 and 21.31.080 state, "Light sources shall be designed to avoid direct or indirect glare to any off-site properties or public rights-of-way."

Carlsbad Hillside Development Regulations

The City of Carlsbad's Hillside Development Regulations (Chapter 21.95 of the CMC), apply to slopes of 15 percent or greater and an elevation differential greater than 15 feet. Development of property with these conditions is subject to HDP regulations and guidelines, and approval of a HDP. The Hillside Development and Design standards address: coastal zone hillside standards; development of manufactured slopes greater than 40 percent gradient, 15 feet in height, and greater than 10,000 square feet (sf); grading volume; contour grading; screening manufactured slopes; and hillside and hilltop architecture.

The Hillside Development Regulations require the following:

- Apply the goals and objectives of the land use and open space/conservation elements of the Carlsbad General Plan;
- Preserve and/or enhance the aesthetic qualities of natural hillsides and manufactured slopes by designing projects which relate to the slope of the land, minimizing the amount of project grading, and incorporating contour grading into manufactured slopes which are located in highly visible public locations;

- Identify and properly map hillside conditions and incorporate into the planning process; and
- Require that the alteration of natural hillsides be completed in an environmentally sensitive manner for protection of waterways and ecosystems to protect from increased erosion and no substantial impacts to natural resource areas, wildlife habitats, or native vegetation would occur.

Grading Ordinance

CMC Chapter 15.06 establishes minimum requirements for grading, including clearing and grubbing of vegetation, for the issuance of ministerial permits and to provide for the enforcement of the requirements. The intent is to achieve the following goals to the maximum extent feasible:

- Facilitate the planning, design and construction of development sites to maximize safety and human enjoyment while protecting, insofar as possible, the surrounding natural environment;
- Ensure compatibility of graded land development sites with surrounding land forms and land uses;
- Prevent unnecessary and unauthorized grading, including clearing and grubbing of vegetation, on property within Carlsbad;
- Preserve natural plant communities and existing mature trees;
- Preserve significant cultural and archaeological sites;
- Promote the rapid restoration of graded slopes with fire resistant, drought tolerant landscaping that is aesthetically pleasing and which enhances adjacent habitat values; and
- Protect public and private property, storm water conveyance systems, downstream riparian habitats, waterways, wetlands, and lagoons by controlling soil erosion, sedimentation and other potential adverse impacts caused by grading operations or which result as a consequence of the increased rate of surface water runoff from graded sites.

Carlsbad General Plan

The Carlsbad General Plan contains policies that address aesthetic resources in the city. Applicable General Plan policies include:

Land Use and Community Design Element

- Goal 2-G.17** Ensure that the scale and character of new development is appropriate to the setting and intended use. Promote development that is scaled and sited to respect the natural terrain, where hills, public realm, parks, open space, trees, and distant vistas, rather than buildings, dominate the overall landscape, while developing the Village, Barrio, and commercial and industrial areas as concentrated urban-scaled nodes.
- Goal 2-G.18** Ensure that new development fosters a sense of community and is designed with the focus on residents, including children, the disabled and the elderly by providing: safe, pedestrian-friendly, tree-lined streets; walkways to common destinations such as schools, bikeways, trails, parks and stores; homes that exhibit visual diversity, pedestrian-scale and prominence to the street; central gathering places; and recreation amenities for a variety of age groups.

Goal 2-G.19 Ensure that new neighborhood commercial centers are designed for pedestrian comfort, and integrate with the surrounding neighborhoods with new streets and paths.

Policy 2-P.24 Build and operate commercial uses in such a way as to complement but not conflict with adjoining residential areas. This shall be accomplished by:

- a. Controlling lights, signage, and hours of operation to avoid adversely impacting surrounding uses.
- b. Requiring adequate landscaped buffers between commercial and residential uses.
- c. Providing bicycle and pedestrian links between commercial centers and surrounding residential uses, and providing bicycle parking racks.
- d. Ensuring building mass does not adversely impact surrounding residences.

Policy 2-P.25 Ensure that commercial development is designed to include:

- a. Integrated landscaping, parking, signs, and site and building design.
- b. Common ingress and egress, safe and convenient access and internal circulation, adequate off-street parking and loading facilities. Each commercial site should be easily accessible by pedestrians, bicyclists, and automobiles to nearby residential development.
- c. Architecture that emphasizes establishing community identity while presenting tasteful, dignified, and visually appealing designs compatible with their surroundings.
- d. A variety of courtyards and pedestrian ways, bicycle facilities, landscaped parking lots, and the use of harmonious architecture in the construction of buildings.

Policy 2-P.40 Establish development standards that will preserve natural features and characteristics, especially those within coastal, hillside and natural habitat areas.

Policy 2-P.41 Ensure that the review of future projects places a high priority on the compatibility of adjacent land uses along the interface of different residential density and non-residential intensity categories. Special attention should be given to buffering and transitional methods, especially, when reviewing properties where different residential densities or land uses are involved.

Carlsbad Landscape Manual

The Carlsbad Landscape Manual (Manual) identifies policies, programs, and requirements for landscaping and to provide guidance for implementation of CMC Chapter 18.50, the Water Efficient Landscape Ordinance. The Manual provides policies on water conservation, planting, irrigation, streetscape, fire protection, and slope revegetation/erosion.

El Camino Real Corridor Development Standards

The El Camino Real Corridor Development Standards (Standards) were adopted in 1984 to further the goals of the then-existing Land Use and Scenic Highways Elements of the Carlsbad General Plan to preserve unique city resources as they relate to highways. The Standards provide a general

design concept for the entire length of the El Camino Real right-of-way, and establish development restrictions for private properties fronting the roadway. The design concept is an easily identifiable homogenous corridor that capitalizes on the design characteristics of five distinct subareas. The Standards include design guidelines emphasizing retention of natural topography; right-of-way standards for landscaping, street lighting, signage, and furniture; and private frontage standards for design theme, medians, sidewalks, signage, building height and setback, grading, street furniture and lighting, roofing, and land use.

City Standard Conditions of Approval

The proposed project will be required to comply with the following city standard conditions of approval:

- A HDP shall be approved by the city.
- A SUP shall be approved by the city.
- The landscaping plan for the proposed project shall be approved by the city and comply with the city's Manual.

5.1.3 Project Impacts

Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts to aesthetics would be considered significant if the proposed project was determined to:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light and glare, which would adversely affect day or nighttime views in the area

Impact Analysis

Impact 5.1-1 Scenic Vista

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

There are no formally designated state scenic vistas within the project area. The project site is located adjacent to El Camino Real, which is the designated local scenic corridor. Thus, the proposed project is within the Scenic Preservation Overlay and subject to the Standards. Compliance with the Standards is reviewed and ensured under SUP 16-02 submitted for the project. Compliance with the requirements of the SUP process will ensure that the proposed project would not have a substantial adverse effect on a scenic vista and no impact would occur.

Impact 5.1-2 Scenic Resources

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

The project site would not substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. According to the California Scenic Highway Mapping System, no designated State scenic highways are located in the vicinity of the project site and, therefore, no impact would result.

Impact 5.1-3 Degrade Existing Visual Character

Would the proposed project substantially degrade the existing visual character or quality of the site and its surroundings?

Construction Impacts

The project site will be visually disrupted during the construction phase of the proposed project. Similar to any development, new construction, landscaping, and other construction related work has the potential to result in a temporary aesthetic impact onsite. This impact would be considered significant if large expanses of the project site are graded, then left in a barren state for an extended period of time. The city requires that all graded areas not scheduled for construction within 90 days be hydroseeded. This requirement would be applied to all phases of project development. This is considered a less than significant impact.

Grading of the proposed project site is subject to the city's Hillside Development Ordinance as project areas contain hillside conditions that are defined as slopes greater than 15 feet in height and 15 percent in slope. Figure 5.1-1 depicts the various steep slope categories on the project site. Table 5.1-1 presents the various slope categories per project parcel. As shown on Figure 5.1-1, a majority of the steep slopes are located in the central and southwest portion of the project site, and eastern boundary of the project site.

A profile view of the proposed grading is presented on Figure 5.1-2. As described in Chapter 3.0 Project Description, exceptions are being requested to the grading ordinance which triggers the requirement for the HDP. Per CMC § 21.95.040(d)(2), earthwork exceeding 10,000 cubic yards/acre is proposed in order to maintain privacy for adjacent existing homeowners. These exceptions would allow the maximum grading volumes to be exceeded, so that the higher topographical elevations in the southern portion of the site can be reduced, which would maximize the privacy of the existing adjacent homes. The higher topographical elevations of the project site located along the southern portion of the site will be lowered significantly to improve the proposed project's compatibility with the surrounding area. Lowering the topographical elevations along this portion also accommodates the privacy concerns expressed by existing adjacent residents. The lowering of the topography in the southern portion of the site to address privacy concerns results in an increase in the volume of the project site grading.

DEVELOPMENT CONSTRAINTS													
PARCEL	GENERAL PLAN DESIGNATION	GROSS ACRES	BEACHES	PERM. WATER BODIES	FLOODWAY (FEMA)	NATURAL SLOPES GREATER THAN 40%	NATURAL SLOPES 25-40%	SIGNIFICANT WETLANDS	SIGNIFICANT RIPARIAN (SVWS/SW)	MAJOR POWER TRANSMISSION ESMT.	OTHER SIGNIFICANT ENV. FEATURES	RAILROAD TRACKS	NET ACRES
1	COMMERCIAL (GC)	6.26	0	0	0	SEE PARCEL TABLES	SEE PARCEL TABLES	0	0	0.01	0	0	5.73
2	RESIDENTIAL (R-15)	14.39	0	0	0	SEE PARCEL TABLES	SEE PARCEL TABLES	0	0	0.49	0	0	12.04

DENSITY CALCULATIONS							
PARCEL	GENERAL PLAN DESIGNATION	GROSS ACRES	NET ACRES	LOWER END DENSITY (DU/AC)	LOWER END DWELLING UNITS	UPPER END DENSITY (DU/AC)	UPPER END DWELLING UNITS
1(A)	GC	6.26	5.73	15	21	30	43
2	R-15	14.39	12.04	12	144	15	181
TOTAL		20.65	17.77		165		224

(A) PARCEL 1 IS A COMMERCIAL PARCEL AND DENSITY CALCULATIONS ARE BASED ON 25% OF THE NET ACRES

CDP 16-33 CT 16-07
SDP 2018-0001 PUD 16-09
EIR 2017-001 HDP 16-02
DEV16038 SUP 16-02
PUD 2018-0007

PARCEL 1 - GENERAL PLAN DESIGNATION - GC

LEGEND	SLOPE RANGE (%)	GROSS ACRES	NET ACRES	NET AREA AS A PERCENT OF TOTAL GROSS AREA
	0 - 25	5.12	5.25	84.00
	25 - 40 (NATURAL)	0.59	0.30	4.80
	25 - 40 (MAN-MADE)	0.05	0.05	0.80
	40 - VERT (NATURAL)	0.36	0.00	0.00
	40 - VERT (MAN-MADE)	0.13	0.13	2.08
TOTALS		6.25	5.73	

PARCEL 2 - GENERAL PLAN DESIGNATION - R-15

LEGEND	SLOPE RANGE (%)	GROSS ACRES	NET ACRES	NET AREA AS A PERCENT OF TOTAL GROSS AREA
	0 - 25	10.22	10.22	73.53
	25 - 40 (NATURAL)	2.73	1.37	9.88
	25 - 40 (MAN-MADE)	0.18	0.18	1.29
	40 - VERT (NATURAL)	0.50	0.00	0.00
	40 - VERT (MAN-MADE)	0.27	0.27	1.94
TOTALS		13.90	12.04	

SLOPE INFORMATION

FLAT = 0-25%
MODERATE = 25-40%
STEEP = 40%-VERTICAL

FLAT NATURAL SLOPE = 100% BUILDABLE ZONE
MODERATE NATURAL SLOPE = 50% BUILDABLE ZONE
MODERATE MAN-MADE SLOPE = 100% BUILDABLE ZONE
STEEP NATURAL SLOPE = 0% BUILDABLE ZONE
STEEP MAN-MADE SLOPE = 100% BUILDABLE ZONE

NOTE

SEE SHEET 24 FOR CROSS SECTIONS

CONSTRAINTS NOTES

MAJOR RIDGELINES NONE
RIPARIAN OR WOODLANDS NONE
INTERMITTENT DRAINAGE COURSE NONE
25 - 40% SLOPES SEE GRAPHIC
GREATER THAN 40% SLOPES SEE GRAPHIC
MAJOR ROCK OUTCROPPINGS NONE
FLOODWAYS NONE
ARCHAEOLOGICAL SITES NONE
SPECIAL PLANNING AREAS NONE
BIOLOGICAL HABITATS NONE
BEACHES NONE
PERMANENT BODIES OF WATER NONE
WETLANDS NONE
MAJOR POWER TRANSMISSION EASEMENTS SEE GRAPHIC
RAILROAD TRACK BEDS NONE

CONTOUR INTERVAL IS 2 FEET

SCALE: 1" = 70'

DATE INITIAL ENGINEER OF WORK

DATE INITIAL OTHER APPROVAL

DATE INITIAL CITY APPROVAL

REVISION DESCRIPTION

DATE INITIAL CITY APPROVAL

REGISTERED PROFESSIONAL LAND SURVEYOR

NO. 81005

Exp. 09-30-19

J. WILSON

STATE OF CALIFORNIA

CITY OF CARLSBAD

PLANNING DEPARTMENT

2888 LOKER AVENUE EAST SUITE 217, CARLSBAD, CA 92010 www.HWL-PE.com

Tel. 760.929.2288 Fax. 760.929.2287 Email. info@HWL-PE.com

SHEET 23

TENTATIVE MAP FOR:

MARJA ACRES

DRAWING NAME:

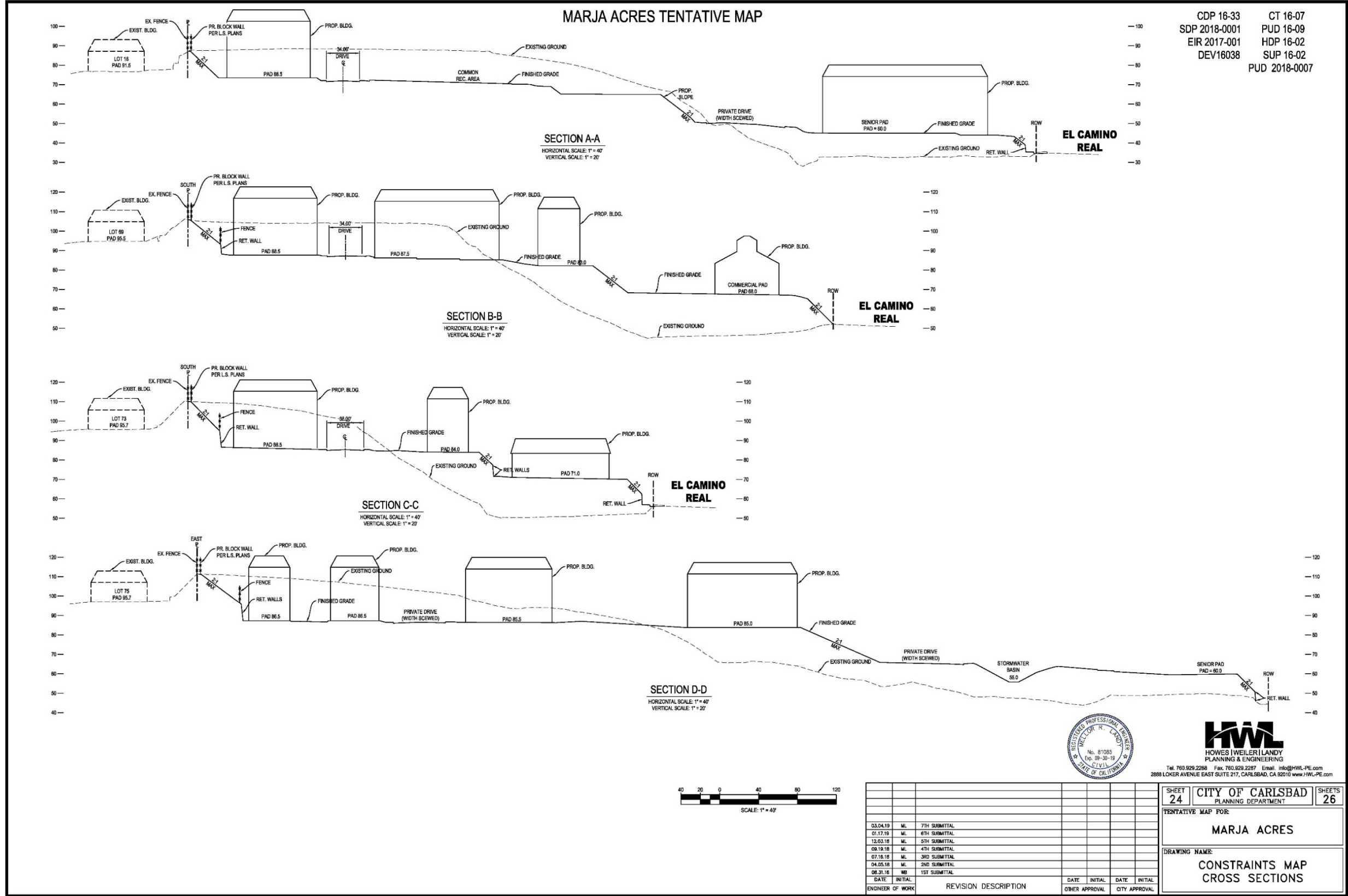
CONSTRAINTS MAP

SHEET 26

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Figure 5.1-2. Slope Profile



DATE: 1/16/2019 ~ FILE NAME: S:\PROJECTS\12704 Marja Acres\CIVIL\DRAWING\DISCRETIONARY PLANS\TENTATIVE MAP\24 Cross Sections.dwg

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Table 5.1-1. Slope Categories

Slope Range (%)	Gross Acres	Net Acres	Net Area as a Percent of Total Gross Area
Parcel 1 – General Plan Designation GC			
0 - 25	5.12	5.25	84.00
25 - 40 (Natural)	0.59	0.30	4.80
25 - 40 (Man-Made)	0.05	0.05	0.80
40 Vert (Natural)	0.36	0.00	0.00
40 Vert (Man-Made)	0.13	0.13	2.08
Parcel 2 – General Plan Designation R-15			
0 - 25	10.22	10.22	75.53
25 - 40 (Natural)	2.73	1.37	9.86
25 - 40 (Man-Made)	0.18	0.18	1.29
40 Vert (Natural)	0.50	0.0	0.0
40 Vert (Man-Made)	0.27	0.27	1.94

Source: Howes Weiler Landy Planning & Engineering (2019)

Post-Construction Impacts

Visual simulations were completed to provide a visual representation of area landform changes and the developed condition under the proposed project. The proposed project landscape plans were utilized for landscaping design and placement. Figure 5.1-3 provides the Photo Simulations Key Map to illustrate both the location point and the direction of the views provided in each visual simulation. Figure 5.1-4 through Figure 5.1-11 provide the existing conditions and the corresponding visual simulation for the proposed developed condition.

Existing Condition – Location 1

Location 1 provides a view of the southwestern boundary of the project area looking northeast from Hillside Drive near the Hillside Drive / Kelly Drive intersection. As shown on Figure 5.1-4, the existing view from this vantage point is dominated by paved local roads and sidewalks in the foreground. The middle ground is dominated by paved local roads, sidewalks, and single-family residences along Kelly Drive. As shown on Figure 5.1-4, a hillside is present behind the existing single family residences with low-lying vegetation as well as scattered trees, including palm trees. Existing power lines are visible at the top of the hill within the background of the existing view.

Proposed Condition – Location 1

In the proposed condition, as viewed from Location 1 and shown on Figure 5.1-5, foreground and mid-ground views are unaltered a result of the proposed project. The background has increased vegetation, primarily trees, as a result of project landscaping. As shown on Figure 5.1-5, the proposed residential buildings are not visible from this viewpoint.

Existing Condition – Location 2

Location 2 provides a view of the project frontage along El Camino Real looking southeast from the Kelly Drive / El Camino Real intersection. As shown on Figure 5.1-6, the foreground consists of a paved roadway within the middle and right side of the view, a bicycle lane and sidewalk present in the middle of the foreground, and low-lying vegetation and young planted trees on the left side of the view. The features described in the foreground extend in to the middle ground. The background is comprised of paved roadway, young trees on the left side of the view, and mature trees and low lying vegetation on the right side of the view.

Proposed Condition – Location 2

As shown on Figure 5.1-7, as viewed from Location 2, the foreground and middle ground will remain unchanged as a result of the proposed project. The proposed three-story age-restricted affordable apartment building and restaurant are visible in the background on the right side of the view. The townhomes located past (further east of) the proposed restaurant building are partially visible from this viewpoint, as the project's landscaping provides some level of visual buffer. The project landscaping along El Camino Real includes new low-lying bushes, grasses, and young to mature trees.

Existing Condition – Location 3

Location 3 provides a view of the project frontage along El Camino Real looking southwest near the West Ranch Street / El Camino Real intersection. As shown on Figure 5.1-8, the foreground is dominated by a local bus stop including bus stop signage, a sidewalk, bus bay, and groundcover vegetation. A paved roadway extends from the foreground to the background. The middle ground is comprised of a paved roadway, raised center median, sidewalk, bus bay, and young to moderate vegetation flanking the roadway. The background includes unfinished multiple-story residential structures located within the Robertson Ranch project on the right side of the view, street lighting, a hill, and vegetation.

Proposed Condition – Location 3

As shown on Figure 5.1-9, the view from Location 3 would not be altered in the foreground or middle ground as a result of development of the proposed project. Further, the background is moderately altered with the inclusion of the proposed project's three-story residential buildings and increased mature and young planted vegetation. Additionally, the proposed project would partially obscure views to the hilltop. However, the additional landscaping and height of the buildings do not negatively impact the background from this viewpoint.

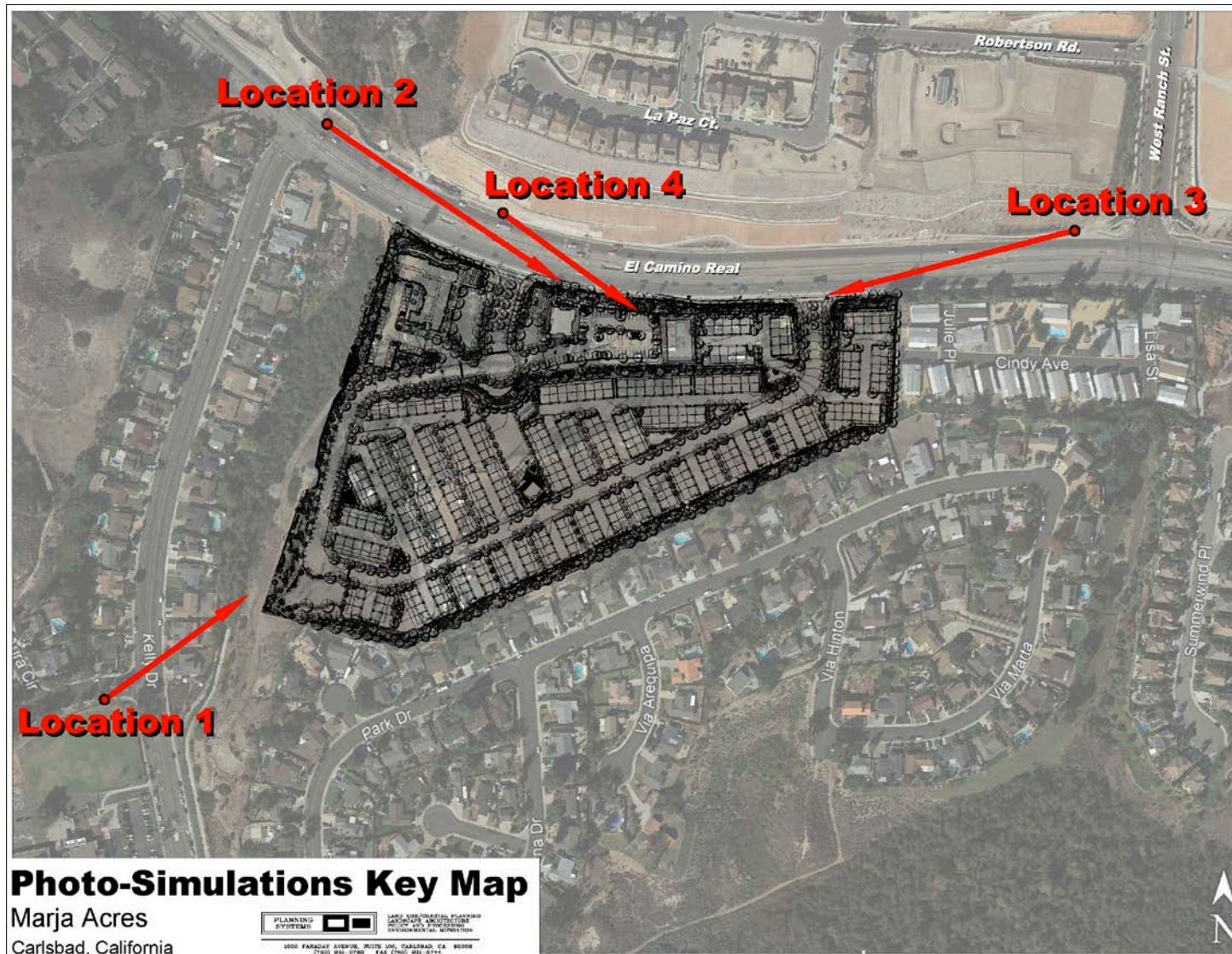
Existing Condition – Location 4

Location 4 provides a view of the project frontage along El Camino Real looking southeast from a sidewalk across the street. As shown on Figure 5.1-10, the foreground consists of groundcover vegetation, a sidewalk, and bicycle lane. The middle ground is comprised of a paved roadway and raised center median with equally spaced sections of hardscape and trees with low-lying vegetation. The eastbound side of the roadway is flanked by palm trees in varying heights, as well retail and commercial businesses. A hillside is present behind the retail and commercial businesses with low-lying vegetation as well as scattered trees, including palm trees.

Proposed Condition – Location 4

As shown on Figure 5.1-11, the proposed condition as viewed from Location 4 would not be substantially altered by development of the proposed project with respect to the foreground or the roadway present in the middle ground of the view. The proposed project would result in the removal of the existing commercial businesses flanking the eastbound side of the roadway and would involve grading of the hill present in the existing condition background in order to accommodate the proposed project. The background in the proposed developed condition consists of a new driveway leading into the community, three-story residential buildings, restaurant building, and landscaping. The project landscaping along El Camino Real includes new low-lying bushes, grasses, and young to mature trees.

Figure 5.1-3. Photo Simulations Key Map



Source: Planning Systems 2019

Figure 5.1-4. Existing View – Location 1



Source: Planning Systems 2019

Figure 5.1-5. Proposed Project View Simulation – Location 1



Source: Planning Systems 2019

Figure 5.1-6. Existing View – Location 2



Source: Planning Systems 2019

Figure 5.1-7. Proposed Project View Simulation – Location 2



Source: Planning Systems 2019

Figure 5.1-8. Existing View – Location 3



Source: Planning Systems 2019

Figure 5.1-9. Proposed Project View Simulation – Location 3



Source: Planning Systems 2019

Figure 5.1-10. Existing View – Location 4



Source: Planning Systems 2019

Figure 5.1-11. Proposed Project View Simulation – Location 4



Source: *Planning Systems 2019*

As presented in the visual simulations (Figure 5.1-5, Figure 5.1-7, Figure 5.1-9, and Figure 5.1-11), views of the project site from surrounding areas would change from generally disturbed and developed land along El Camino Real to a residential community with supporting restaurant and retail uses.

While the proposed project will transform the project site, this visual change is not considered to be a substantial degradation of the visual character or quality of the site. Consideration of the existing residential character of the surrounding area was an influential factor in developing the overall grading concept for the project site. In order to maximize the privacy of the existing adjacent homes, the higher topographical elevations of the site located along the southern portion of the site will be lowered significantly to improve the proposed project's compatibility with the surrounding area. Lowering the topographical elevations along this portion also accommodates the privacy concerns expressed by existing adjacent residents.

The proposed project is subject to development and planning review, and must conform to zoning and other ordinances regarding aesthetic qualities such as lighting, signage, building setbacks, and hillside protection. The proposed project is subject to the Standards which include design guidelines emphasizing retention of natural topography; right-of-way standards for landscaping, street lighting, signage, and furniture; and private frontage standards for design theme, medians, sidewalks, signage, building height and setback, grading, street furniture and lighting, roofing, and land use. In addition, the Manual requires stringent standards for landscaping and site maintenance which will promote the vitality of the natural features of the site. The proposed project would not substantially alter the visual character or quality of the site and surroundings. This is considered a less than significant impact.

Impact 5.1-4 Light and Glare

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

The project site is located in an area with existing and planned urbanized uses. The existing uses generate a moderate amount of light and glare in the immediate project area, primarily from street lighting and private yard lighting in the residential areas. The proposed project will introduce new light and potential sources of glare on the project site. Proposed development will be required to comply with city standards regarding building and street lighting, and Sections 21.21.160 and 21.31.080 of the Zoning Ordinance. The following basic lighting provisions will be included in the design of the proposed project:

- Street lights should provide a safe and desirable level of illumination for both motorists and pedestrians without intruding into residential areas.
- Lighting fixtures should relate to the human scale, especially in pedestrian areas.
- Lighting and lighting fixtures should complement the design and character of the development.
- All lighting shall be pedestrian-oriented and friendly, but shall not be obtrusive or offensive.
- All street lighting shall conform to city standards or an approved theme lighting program, and shall be approved by the city Engineer.
- Illuminated entries should direct lighting glow to the ground and be limited to only the immediate vicinity of the entry.

- Lighted entries should not be distracting, create visual hot spots, or glare, etc.
- Ensure exterior lighting adjacent to off-site habitat areas is limited to low pressure sodium or alternative sources in the amber spectrum and selectively placed, shielded, and directed away from habitat to the maximum extent practicable.
- All lighting conditions will be addressed in the review and approval of any SDP or other application required pursuant to the CMC.

5.1.4 Level of Significance before Mitigation

Implementation of the proposed project would not result in significant aesthetics impacts; therefore, no mitigation measures are proposed.

5.1.5 Environmental Mitigation Measures

No mitigation measures are proposed, as no significant impacts have been identified.

5.1.6 Level of Significance after Mitigation

No significant impact to aesthetics/grading has been identified.

5.2 Agriculture and Forestry Resources

This section describes the agricultural and forestry resources within the project site and analyzes the potential impacts on these resources from construction and operation of the proposed project.

Data sources that were used for this analysis include farmland data from the California Department of Conservation (DOC), the *Carlsbad General Plan* and Zoning Ordinance, and the LCP.

5.2.1 Existing Conditions

Agricultural Resources

The city's agricultural and horticultural resources are considered a valuable part of the city's open space heritage. Various levels of farming and cultivation of agricultural crops have occurred in the city historically. In the late 1880s agricultural development consisted of citrus fruits, avocados and olives, and by the early 1900s dry farming was the town's principal industry. By 1914, farming was expanded to include flowers. Currently, flower and strawberry production constitute a large portion of the city's remaining agricultural uses.

The southern parcel of the project site has a history of agricultural use. According to city records, from 1952 to 1963 the southern parcel of the project site was the site of a chicken and egg farm. As the surrounding area developed with residences, neighbors complained about odor and insects, leading the farm to close in 1963. No agricultural activity occurred on the site from 1963 to 1991. From 1991 to 2009 the parcel was used for crop production under short-term farm leases. The city indicates that crop production was unsuccessful due to rising costs and poor soil conditions. Since 2010, Habitat Restoration Sciences has used the southern parcel to cultivate native plants in containers for off-site restoration projects.

Important Farmlands

As shown on Figure 5.2-1, the project site contains areas mapped by the California DOC as Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Urban and Built-Up Land (California DOC 2016). Table 5.2-1 provides an acreage breakdown of the farmland classifications within the project site.

Table 5.2-1. Farmland Mapping and Monitoring Program Designations within the Project Site

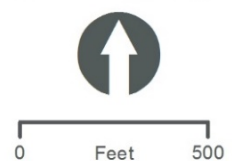
Important Farmland	Acres
Farmland of Statewide Importance	7.11
Unique Farmland	1.19
Farmland of Local Importance	8.58
Urban and Built-Up Land	3.70

Figure 5.2-1. Project Site California Department of Conservation Important Farmland Categories



LEGEND

- | | | |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project Site | P - Prime Farmland | L - Farmland of Local Importance |
| Parcels | S - Farmland of Statewide Importance | D - Urban and Built-up Land |
| | U - Unique Farmland | X - Other Land |



Williamson Act Contract Lands

According to the San Diego County Williamson Act 2013/2014 Map, there are no lands under Williamson Act contract located within or in proximity to the project site (California DOC 2013).

Forestry Resources

Section 12220(g) of the California PRC defines forest as “land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” In addition, California PRC Section 4526 defines timberland as “land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.” Section 51104(g) of the California Government Code (CGC) further defines a timberland production zone as “an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses.”

There are no existing forest lands, timberlands, or timberland production zones either within the project site or in the immediate vicinity.

5.2.2 Regulatory Setting

State

California Land Conservation Act

The Williamson Act (California Land Conservation Act 1965, CGC Section 51200 et seq.) is a statewide mechanism for the preservation of agricultural land and open space land. The act provides a comprehensive method for local governments to protect farmland and open space by allowing lands in agricultural use to be placed under contract (agricultural preserve) between a local government and a land owner.

California Farmland Mapping and Monitoring Program

The California DOC, under the Division of Land Resource Protection, has set up the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state’s farmland to and from agricultural use. The map series identifies eight classifications and uses a minimum mapping unit size of 10 acres. The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates its “Important Farmland Series Maps” every 2 years.

Local

Carlsbad Local Coastal Program

The city’s LCP, adopted in 1996, includes the city’s land use plans, policies, and standards and the Zoning Ordinance for the city’s Coastal Zone. The LCP meets the requirements, and implements the provisions and policies of the California Coastal Act. The city’s LCP includes six planning areas or segments that cover approximately one-third of the city. The project site is located with the Mello II Segment of the city’s LCP. The LCP contains policies for the conservation of agricultural lands.

Specifically, Policy 2-1 Conservation of Agricultural Lands provides the basic agricultural policies for the Mello II Segment.

Policy 2-1: Conservation of Agricultural Lands

a) Basic Agricultural Policies

1) Coastal Agriculture:

Consistent with the provisions of Sections 30241 and 30242 of the Coastal Act, it is the policy of the City to contribute to the preservation of the maximum amount of prime agricultural land throughout the coastal zone by providing for the balanced, orderly conversion of designated non-prime coastal agricultural lands. Non-prime agricultural lands identified on Map X, including the 301.38-acre Caritas Property, are designated Coastal Agriculture and shall be permitted to convert to urban uses subject to the agricultural mitigation or feasibility provisions set forth in the LCP. Any acreage under the control of a public entity for a public recreation or open space use shall be exempt from Policy 2-1 and be permitted to convert from an agricultural use without satisfying one of the three conversion options.

Despite a history of agricultural use, the project site is not designated in the city's LCP for agriculture conservation. It also does not qualify as prime agricultural land required to be preserved due to poor soil conditions (rated by the National Research Conservation Service as Class 3 and 4 – severe to very severe limitation for agriculture use, and a Storie Index Rating well below 80) or other commercial agricultural operations. Policy 2-1 *Conservation of Agricultural Lands* identifies as “coastal agriculture” certain non-prime agricultural lands that are suitable for conversion to urban uses subject to appropriate mitigation. In this case, however, the project site is not identified as a coastal agriculture site, and therefore, conversion of this site to urban uses does not require mitigation.

5.2.3 Project Impacts

Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts on agricultural resources would be considered significant if the project was determined to:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use
- Conflict with existing zoning for agricultural use, or a Williamson Act contract
- Conflict with existing zoning for, or cause rezoning of, Forest Land (as defined in PRC Section 12220(g)), Timberland (as defined by PRC 4526), or timberland-zoned Timberland Production (as defined by CGC Section 51104(g))
- Result in the loss of forest land or conversion of forest land to non-forest use
- 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

Impact Analysis

Impact 5.2-1 Conversion of Farmland to Non-Agricultural Use

Would the proposed 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?

According to the 2014 San Diego County Important Farmland Map and as shown on Figure 5.2-1, the project site contains Farmland of Statewide Importance and Unique Farmland. Therefore, implementation of the proposed project would convert approximately 7.11 acres of Farmland of Statewide Importance and 1.19 acres of land designated as Unique Farmland to non-agricultural use. However, as described above, despite a history of agriculture use, the project site does not qualify as prime agricultural land required to be preserved due to soil conditions or other commercial agricultural operations. The project site is not identified as a coastal agriculture site, and therefore, conversion of the project site to urban uses does not require mitigation.

Impact 5.2-2 Conflict with Williamson Act or Agricultural Zoning

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

According to the San Diego County Williamson Act 2013/2014 Map, there are no lands under Williamson Act contract located within or in proximity to the project site (California DOC 2013). Therefore, the proposed project would not conflict with a Williamson Act contract and no impact is identified.

The existing zoning for the project site is General Neighborhood Commercial (C-2) and Residential Density - Multiple (RD-M). The project site is not located on or adjacent to land zoned for agricultural use. Therefore, the proposed project would not conflict with existing zoning for agricultural use and no impact would occur.

Impact 5.2-3 Conflict with Forestland Zoning

Would the proposed 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))?

The project site is currently zoned C-2 and RD-M. It is not zoned for forest land as defined in PRC Section 12220(g), timberland (as defined by PRC Section 4526), or timberland production (as defined by CGC Section 51104(g)). There are no existing forest lands, timberlands, or timberland production zones either within the project site or in the immediate vicinity. Therefore, no impact would occur.

Impact 5.2-4 Conversion of Forest Land to Non-Forest Use

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

As previously indicated in Impact 5.2-3, there are no existing forest lands either within the project site or in the immediate vicinity. Therefore, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use and no impact would occur.

Impact 5.2-5 Result in Other Changes that could contribute to the Conversion of Farmland to Non-Agricultural Use

Would the proposed 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?

Land uses surrounding the project site include the Robertson Ranch residential and commercial development to the north, existing single-family residential units to the west and south, and a small mobile home park to the east. The project site is not adjacent to any existing and active agricultural lands. As such, the proposed project would not result in other changes in the existing environment that could result in the conversion of farmland to non-agricultural use. Therefore, no impact would occur.

5.2.4 Level of Significance before Mitigation

Implementation of the proposed project would not result in significant impacts on agricultural resources; therefore, no mitigation measures are proposed.

5.2.5 Environmental Mitigation Measures

No mitigation measures are proposed, as no significant impacts have been identified.

5.2.6 Level of Significance after Mitigation

No significant impacts on agricultural resources have been identified.

5.3 Air Quality

This section summarizes the existing regional air quality conditions, describes the regulatory framework, and discusses potential impacts on air quality as a result of implementation of the proposed project. The following technical study analyzes the potential impacts from the proposed project:

- *Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan* (Dudek 2019) (Appendix B of this EIR)

The technical appendices are included on the attached CD found on the back cover of this EIR.

5.3.1 Existing Conditions

Meteorological and Topographical Conditions

The project site is located in the City of Carlsbad in San Diego County, which is part of the San Diego Air Basin (SDAB) and is under the jurisdiction of the San Diego Air Pollution Control District (SDAPCD). The SDAB comprises the entire San Diego region, covering approximately 4,260 square miles, and is an area of high air pollution potential. The SDAB experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The climate also drives the pollutant levels. The climate of San Diego is classified as Mediterranean, but it is incredibly diverse due to the topography. The climate is dominated by the Pacific High pressure system that results in mild, dry summers and mild, wet winters. The Pacific High drives the prevailing winds in the SDAB. The winds tend to blow onshore during the daytime and offshore at night. In the fall months, the SDAB is often impacted by Santa Ana winds. These winds are the result of a high pressure system over the Nevada-Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. Another type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O₃, commonly known as smog.

The average summertime high temperature in the region is approximately 72°F. The average wintertime low temperature is approximately 53°F. Average precipitation in the local area is approximately 10.5 inches per year, with the bulk of precipitation falling between December and March (Appendix B of this EIR).

Criteria Air Pollutants

Air quality is defined by ambient air concentrations of specific pollutants, known as “criteria” pollutants, determined by the U.S. Environmental Protection Agency (EPA) with respect to the public’s health and welfare. The subject pollutants, which are monitored by the U.S. EPA, are carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), particulate matter of 2.5 microns or less in

diameter (PM_{10}), particulate matter of 10 microns or less in diameter (PM_{10}), volatile organic compounds (VOC), reactive organic gasses (ROG), hydrogen sulfide (H_2S), sulfates, lead (Pb), and visibility reducing particles. These pollutants are defined below:

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability.

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of 3 oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly NO_x and VOCs. The primary sources of VOCs and NO_x , the components of O_3 , are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3 . NO_x is formed from fuel combustion under high temperature or pressure. The two major emissions sources are transportation and stationary fuel combustion sources. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries. Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children.

Course Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Inhalable particulate matter, or PM_{10} , is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. When inhaled, PM_{10} particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections.

Fine Particulate Matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial

facilities), residential fireplaces, and wood stoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as SO₂, NO_x, and VOCs. Very small particles of substances, such as Pb, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead. Pb in the atmosphere occurs as particulate matter. Sources of Pb include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary Pb smelters. Prior to 1978, mobile emissions were the primary source of atmospheric Pb. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne Pb by nearly 95 percent. With the phaseout of leaded gasoline, secondary Pb smelters, battery recycling, and manufacturing facilities are becoming Pb-emissions sources of greater concern.

Prolonged exposure to atmospheric Pb poses a serious threat to human health. Health effects associated with exposure to Pb include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level Pb exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of Pb.

Volatile Organic Compounds or Reactive Organic Gases. VOCs are carbon-containing compounds that evaporate into the air. VOCs contribute to the formation of smog and/or may be toxic. VOCs often have an odor, and examples include gasoline, alcohol, and the solvents used in paints. The SDAPCD does not directly monitor VOCs. There are no specific state or federal VOC thresholds, as they are regulated by individual air districts as O₃ precursors.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO₂ in the atmosphere. Sulfates can result in respiratory impairment and reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in the air can cause nervous system effects such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. H₂S is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of H₂S include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to H₂S can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for PM_{2.5}, described above.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. DPM is typically composed of carbon particles (“soot,” also called 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. The CARB classified “particulate emissions from diesel-fueled engines” (i.e., DPM; 17 CCR 93000) as a TAC in August 1998.

DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70 percent of all airborne cancer risk in California is associated with DPM. To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000. Because it is part of PM_{2.5}, DPM also contributes to the same non-cancer health effects as PM_{2.5} exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and, overall, is quite subjective. People may have different reactions to the same odor. An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become

desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses). The SDAPCD identifies sensitive receptors as those who are especially susceptible to adverse health effects from exposure to TACs, such as children, the elderly, and the ill. Sensitive receptors include schools (grades Kindergarten through 12), day care centers, nursing homes, retirement homes, health clinics, and hospitals within 2 kilometers of the facility (Appendix B of this EIR).

The closest sensitive receptors to the project site are residences adjacent to the southern, western, and eastern property boundaries.

5.3.2 Regulatory Setting

Federal

Federal Clean Air Act

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the CCAA is its companion state law. These laws, and related regulations by the U.S. EPA and ARB, set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: CO, NO₂, O₃, PM₁₀, PM_{2.5}, and SO₂. In addition, national and state standards exist for Pb, and state standards exist for visibility reducing particles, sulfates, H₂S, and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover TACs (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition. The federal standards are summarized in Table 5.3-1.

The FCAA requires U.S. EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. Table 5.3-2 shows the current attainment status of the SDAB, with respect to the NAAQS and CAAQS.

State

California Clean Air Act

In California, the California Clean Air Act (CCAA) is administered by the ARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. The ARB is responsible for meeting the State requirements of the FCAA, administering the CCAA,

and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, H₂S, vinyl chloride, and visibility-reducing particles. The State standards are summarized in Table 5.3-1.

The CCAA requires ARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous 3 calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Table 5.3-2 shows the current attainment status of the SDAB, with respect to the NAAQS and CAAQS.

Toxic Air Contaminants

California regulates TACs primarily through the Tanner Air Toxics Act (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. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. Pursuant to AB 2588, existing facilities that emit air pollutants above specified levels were required to (1) prepare a TAC emission inventory plan and report, (2) prepare a risk assessment if TAC emissions were significant, (3) notify the public of significant risk levels, and (4) if health impacts were above specified levels, prepare and implement risk reduction measures.

Table 5.3-1. Ambient Air Quality Standards

Air Pollutant	Averaging Time	California Standard	National Standard
O ₃	1 hour 8 hour	0.09 ppm 0.070 ppm	— 0.070 ppm
PM ₁₀	24 hour Annual Arithmetic Mean	50 µg/m ³ 20 µg/m ³	150 µg/m ³ —
PM _{2.5}	24 hour Annual Arithmetic Mean	— 12 µg/m ³	35 µg/m ³ 12.0 µg/m ³
CO	1 hour 8 hour	20 ppm 9.0 ppm	35 ppm 9 ppm
NO ₂	1 hour Annual Arithmetic Mean	0.18 ppm 0.030 ppm	100 ppb 0.053 ppm
SO ₂	1 hour 24 hour	0.25 ppm 0.04 ppm	75 ppb —
Pb	30-day Rolling 3-month	1.5 µg/m ³ —	— 0.15 µg/m ³
Sulfates	24 hour	25 µg/m ³	No federal standard
H ₂ S	1 hour	0.03 ppm	
Vinyl chloride	24 hour	0.01 ppm	
Visibility-reducing particles	8 hour	Extinction coefficient of 0.23 per kilometer, visibility of 10 miles or more because of particles when relative humidity is less than 70 percent	

Source: CARB Ambient Air Quality Standards (5/4/16). <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

Notes:

H₂S=hydrogen sulfide; ppm=parts per million; ppb=parts per billion; µg/m³=micrograms per cubic meter

Table 5.3-2. San Diego Air Basin Attainment Classification

Pollutant	Designation/Classification	
	Federal Standards	State Standards
O ₃ - 1 hour	Attainment	Nonattainment
O ₃ (8-hour - 1997) O ₃ (8-hour - 2008)	Attainment (maintenance) Nonattainment (moderate)	Nonattainment
NO ₂	Unclassifiable/attainment	Attainment
CO	Attainment (maintenance)	Attainment
SO ₂	Unclassifiable/attainment	Attainment
PM ₁₀	Unclassifiable/attainment	Nonattainment
PM _{2.5}	Unclassifiable/attainment	Nonattainment
Pb	Unclassifiable/attainment	Attainment
H ₂ S	No federal standard	Attainment
Sulfates	No federal standard	Unclassified
Visibility-Reducing Particles	No federal standard	Unclassified
Vinyl Chloride	No federal standard	No designation

Source: Appendix B of this EIR

Notes:

CO=carbon monoxide; H₂S=hydrogen sulfide; NO₂= nitrogen dioxide; O₃= ozone; Pb=lead; PM_{2.5}=particulate matter of 2.5 microns or less in diameter; PM₁₀=particulate matter of 10 microns or less in diameter; SO₂=sulfur dioxide

Local

San Diego Air Pollution Control District

SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for the SDAB, which includes all of San Diego County. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD.

In the County, O₃ and particulate matter are the pollutants of main concern, since exceedances of state ambient air quality standards for those pollutants have been observed there in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM₁₀, PM_{2.5}, and O₃ standards. The SDAB is also a federal O₃ attainment (maintenance) area for 1997 8-hour O₃ standard, an O₃ nonattainment area for the 2008 8-hour O₃ standard, and a CO maintenance area (western and central part of the SDAB only, including the project site).

Federal Attainment Plans. In December 2016, the SDAPCD adopted an update to the *2008 Eight-Hour Ozone Attainment Plan for San Diego County* (2008 O₃ NAAQS). In this plan, SDAPCD relies on the Regional Air Quality Strategy (RAQS) to demonstrate how the region will comply with the federal O₃ standard. The RAQS details how the region will manage and reduce O₃ precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these pollutants.

State Attainment Plans. The SDAPCD and the SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The RAQS for the SDAB was initially adopted in 1991 and is updated on a triennial basis,



most recently in 2016. The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O₃.

Fugitive Dust Rule (Rule 55). In December 2005 the SDAPCD adopted the Measures to Reduce Particulate Matter in San Diego County. This document identifies fugitive dust as the major source of directly emitted particulate matter in the County, with mobile sources and residential wood combustion as minor contributors. Data on PM_{2.5} source apportionment indicates that the main contributors to PM_{2.5} in the County are combustion of organic carbon, and ammonium sulfate and ammonium nitrate from combustion sources. The main contributors to PM₁₀ include resuspended soil and road dust from unpaved and paved roads, construction and demolition sites, and mineral extraction and processing. Based on the report's evaluation of control measures recommended by the CARB to reduce particulate matter emissions, the SDAPCD adopted Rule 55, the Fugitive Dust Rule, in June 2009. The SDAPCD requires that construction activities implement the measures listed in Rule 55 to minimize fugitive dust emissions. Rule 55 requires the following:

1. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period; and
2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be minimized by the use of any of the equally effective trackout/carry-out and erosion control measures listed in Rule 55 that apply to the project or operation. These measures include: track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; watering for dust control; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks. Erosion control measures must be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations.

Carlsbad General Plan

The Open Space, Conservation and Recreation Element and of the *Carlsbad General Plan* (City of Carlsbad 2015a) identifies goals and policies related to air quality. The following goal and policies are applicable to the proposed project:

Goal 4-G.13. Protect air quality within the city and support efforts for enhanced regional air quality.

Policy 4-P.56. Ensure that construction and grading projects minimize short-term impacts to air quality.

- a) Require grading projects to provide a storm water pollution prevention plan in compliance with city requirements, which include standards for best management practices that control pollutants from dust generated by construction activities and those related to vehicle and equipment cleaning, fueling and maintenance;
- b) Require grading projects to undertake measures to minimize mono-nitrogen oxides (NO_x) emissions from vehicle and equipment operations; and
- c) Monitor all construction to ensure that proper steps are implemented.

5.3.3 Project Impacts

Thresholds of Significance

Appendix G of the CEQA Guidelines is used to provide direction for determination of a significant air quality impact from the proposed project. For the purpose of this EIR, a significant impact would occur if the proposed project would:

- Conflict with or obstruct implementation of the San Diego RAQS or applicable portions of the SIP
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- 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 (PM₁₀, PM_{2.5} or exceed quantitative thresholds for O₃ precursors, NO_x and VOCs)
- Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day care centers) to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

Appendix G of the CEQA Guidelines indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the project would have a significant impact on air quality.

San Diego Air Pollution Control District Rule 20.2 – Air Quality Impact Assessment Screening Thresholds

As part of its air quality permitting process, the SDAPCD has established screening level thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources. The SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 5.3-3 are exceeded. The pounds per day standards apply to the proposed project.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact on air quality.

Table 5.3-3. San Diego Air Pollution Control District Air Quality Significance Thresholds

Construction Emissions			
Pollutant	Total Emissions (pounds per day)		
PM ₁₀	100		
PM _{2.5}	55		
NO _x	250		
SO _x	250		
CO	550		
VOC	75		
Operational Emissions			
Pollutant	Total Emissions		
	Pounds per hour	Pounds per day	Tons per year
PM ₁₀	—	100	15
PM _{2.5}	--	55	10
NO _x	25	250	40
SO _x	25	250	40
CO	100	550	100
Pb and Pb Compounds	—	3.2	0.6
VOC	—	75*	13.7

Source: Appendix B of this EIR

Notes:

* VOC threshold based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley as stated in the San Diego County Guidelines for Determining Significance.

CO=carbon monoxide; NO_x=nitrogen oxides; Pb=lead; PM_{2.5}=particulate matter of 2.5 microns or less in diameter; PM₁₀=particulate matter of 10 microns or less in diameter; SO_x=sulfur oxides; VOC=volatile organic compounds

Carbon Monoxide Hotspots

For CO hotspot impacts, the significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and Federal CO AAQS. Following are the local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

A project with daily emission rates, risk values, or concentrations below these thresholds is generally considered to have a less than significant effect on air quality.

Toxic Air Contaminants

The SDAPCD Supplemental Guidelines for Submission of Air Toxics “Hot Spots” Program Health Risk Assessments provides guidance with which to perform HRAs within the SDAB. The current SDAPCD thresholds of significance for TAC emissions from the operations of both permitted and non-permitted sources are combined and are less than 10 in 1 million for cancer and less than 1 for the chronic hazard index.

Impact Analysis

Impact 5.3-1 Conflict with or Obstruct Implementation of the San Diego RAQS or SIP

Would the proposed project conflict with or obstruct implementation of the San Diego RAQS or applicable portions of the SIP?

The SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the basin—specifically, the SIP and RAQS. The federal O₃ maintenance plan, which is part of the SIP, was adopted in 2012. The most recent O₃ attainment plan was adopted in 2016. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated on a triennial basis (most recently in 2016). The RAQS outlines SDAPCD’s plans and control measures designed to attain the state air quality standards for O₃. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG’s growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a significant cumulative impact on air quality. The project site is currently zoned General Commercial (C-2) and Residential Density - Multiple (RD-M). The C-2 zone includes commercial and office uses providing convenience goods, personal services, and day-to-day living needs plus a wide range of retail, wholesale, and service uses, which requires a site development plan. The RD-M zone includes all types of residential dwellings over a broad range of densities. The Zoning Ordinance contains density bonus provisions that allow for increased density with the provision of affordable housing, and other provisions that allow for some residential within a commercial zone (mixed-use). The project’s proposed restaurant and retail pads, and mixed-use residential consisting of age-restricted affordable housing and townhome units are consistent with the C-2 zoning with the additional Zoning Ordinance provisions noted above. The residential portion of the proposed project is consistent with the RD-M zoning and Zoning Ordinance density bonus provisions. Therefore, the proposed project is consistent with the zoning for the project site.

Implementation of the proposed project would result in an increase in 296 residential units. SANDAG’s 2050 Regional Growth Forecast, adopted in October 2013, is the current growth forecast, and estimates that the city would have 45,171 housing units in 2012, 48,448 units in 2020, 50,261 units in 2035, and 50,505 units in 2050 (Appendix B of this EIR). This would equate to an additional 409 units per year from 2012 to 2020, 120 units per year from 2021 to 2035, and 16 units per year from 2036 through 2050. The proposed project is expected to provide 296 units to market in 2023. However, the units will be released to the public in phases as they are constructed and thus would be within

SANDAG's growth projection for housing for that year. Therefore, the proposed project would not conflict with SANDAG's regional growth forecast for the city.

While the SDAPCD and city do not provide guidance regarding the analysis of impacts associated with air quality plan conformance, the County's *Guidelines for Determining Significance and Report and Format and Content Requirements – Air Quality* does discuss conformance with the RAQS. The guidance indicates that if a project, in conjunction with other projects, contributes to growth projections that would not exceed SANDAG's growth projections for the city, the project would not be in conflict with the RAQS. As previously discussed, the proposed project would not contribute to growth in the region that is not already accounted for. Furthermore, as discussed below under Impact 5.3-2, the proposed project is not expected to result in any long-term regional air quality impacts. Therefore, the proposed project is consistent and would not conflict with implementation of the SIP and RAQS. This impact is considered less than significant.

Impact 5.3-2 Violate Air Quality Standards

Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Air pollutant emissions associated with construction of the proposed project would be released from the exhausts of construction equipment, soil hauling trucks, delivery trucks, and worker commute vehicles. Particulate matter emissions would result from soil movement and wind-blown dust from disturbed surfaces, and organic pollutants would result from painting. Operational emissions would be released from the exhausts of on-road vehicles, and from stationary sources such as water, natural gas, and electricity consumption.

Construction

Construction of the proposed project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (worker vehicle trips). Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Criteria air pollutant emissions associated with construction activity were quantified using CalEEMod. For the purposes of modeling, it was assumed that construction of the proposed project would last approximately 39 months. A detailed description of the construction schedule, including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles is included in the *Air Quality and Greenhouse Gas Emissions Analysis Technical Report* prepared for the proposed project (Appendix B of this EIR).

Implementation of the proposed project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, asphalt pavement application, and architectural coatings. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM₁₀ and PM_{2.5} emissions. The proposed project is subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that the project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least two times daily, resulting in an approximately 55 percent reduction of particulate matter. Exhaust from internal combustion engines used by construction equipment and worker vehicles would result in emissions of

VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. The application of asphalt pavement and architectural coatings would also produce VOC emissions.

As shown in Table 5.3-4, daily construction emissions would not exceed SDAPCD's significance thresholds for any criteria air pollutant. Therefore, the proposed project's short-term air quality impacts would be less than significant.

Table 5.3-4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	Construction Emissions (pounds per day)*					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
2019	5.90	139.34	122.37	0.43	14.28	5.41
2020	11.97	4.02	6.90	0.01	0.13	0.05
2021	11.97	3.99	6.87	0.01	0.13	0.05
2022	0.07	0.88	1.41	0.0	0.08	0.03
Maximum	11.97	139.34	122.37	0.43	14.28	5.41
SDAPCD Threshold	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

Source: Appendix B of this EIR

Notes:

* The values shown are the maximum summer or winter daily emission results from CalEEMod. Although not considered mitigation, these emissions reflect the CalEEMod "mitigated" output, which accounts for the required compliance with SDAPCD Rule 55 (Fugitive Dust) and Rule 67.0.1 (Architectural Coatings).

CO=carbon monoxide; NO_x=nitrogen oxides; PM_{2.5}=particulate matter of 2.5 microns or less in diameter; PM₁₀=particulate matter of 10 microns or less in diameter; SDAPCD=San Diego Air Pollution Control District; SO_x=sulfur oxides; VOC=volatile organic compounds

Operational

Operation of the proposed project would generate VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} emissions from mobile sources, including vehicle trips; area sources, including the use of consumer products, and landscape maintenance equipment; and energy sources.

Emissions from the operational phase of the proposed project were estimated using CalEEMod. Operational year 2023 was assumed as it would be the first full year following completion of construction. CalEEMod default values were used to estimate emissions from the project area and energy sources. Project-generated mobile source emissions were estimated in CalEEMod based on trip rates from the *Traffic Impact Analysis* prepared for the proposed project (Appendix J of this EIR).

Table 5.3-5 presents the maximum daily area, energy, and mobile source emissions associated with operation (Year 2023) of the proposed project. As shown in Table 5.3-5, the combined daily area, energy, and mobile source emissions would not exceed the SDAPCD's operational thresholds for VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. Therefore, impacts associated with project-generated operational criteria air pollutant emissions would be less than significant.



Table 5.3-5. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Year	Operational Emissions (pounds per day)*					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area	8.94	0.29	24.68	0.00	0.14	0.14
Energy	0.15	1.28	0.62	0.01	0.10	0.10
Mobile	2.93	10.84	32.44	0.12	10.46	2.85
Total	12.02	12.41	57.74	0.13	10.70	3.09
SDAPCD Threshold	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

Source: Appendix B of this EIR

Note:

* The values shown are the maximum summer or winter daily emission results from CalEEMod. These emissions reflect the CalEEMod "mitigated" output, which accounts for compliance with SDAPCD Rule 67.0.1 (Architectural Coatings).

Impact 5.3-3 Cumulatively Considerable Net Increase of Any Criteria Pollutant

Would the proposed 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 (PM₁₀, PM_{2.5} or exceed quantitative thresholds for O₃ precursors, NO_x and VOCs)?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. As described under Impact 5.3-2, the proposed project would result in a less than significant impact for short-term construction and long-term operations.

The SDAB is a nonattainment area for O₃ under the NAAQS and CAAQS. The poor air quality in the SDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOCs and NO_x for O₃) potentially contribute to poor air quality. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, a project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the basin to ensure the SDAB continues to make progress toward NAAQS- and CAAQS-attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact on air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly,

individual projects that are inconsistent with the regional planning documents upon which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O₃ and a state nonattainment area for O₃, PM₁₀, and PM_{2.5}. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the basin. As discussed under Impact 5.3-2, the proposed project would not exceed significance thresholds during construction or operation. As such, the proposed project would result in less than significant impacts on air quality.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the proposed project would be consistent with the existing zoning and land use designation for the site and would not result in significant regional growth that is not accounted for within the RAQS. As a result, the proposed project would not result in a cumulatively considerable contribution to regional O₃ concentrations or other criteria pollutant emissions. Cumulative impacts would be less than significant during operation.

Impact 5.3-4 Sensitive Receptors

Would the proposed project expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day care centers) to substantial pollutant concentrations?

The closest sensitive receptors to the project site are residences adjacent to the south, western, and eastern property boundaries. The following analyzes the potential impacts related to exposure of sensitive receptors to TACs, CO, and other criteria air pollutants.

Health Impacts of Toxic Air Contaminants

“Incremental cancer risk” is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard OEHHA risk-assessment methodology. In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB ATCMs to reduce DPM emissions. According to the OEHHA, HRAs should be based on a 30-year exposure duration based on typical residency period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (approximately 36 months) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs.

After construction is completed, there would be no long-term source of TAC emissions during operation. The urban farm, which would be professionally managed, would be considered a land use that is commonly associated with odors due to the presence of fertilizers, pesticides, and herbicides. The urban farm would be completely organic and biodynamic, which would significantly reduce the application of pesticides and fertilizers. The organic farm would be approximately 7,000 square feet



and consist of raised beds. As the urban farm would apply pesticides and fertilizers in a very limited manner, TAC emissions related to the urban farm are minimal.

However, as a precautionary measure a HRA was performed to evaluate the risk from diesel exhaust emissions on existing sensitive receptors from construction activities. The results of the HRA for proposed project construction are summarized in Table 5.3-6. The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in cancer risk on site below the 10 in 1 million threshold, as well as Chronic Hazard Index less than 1. Therefore, TAC emissions from operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, the impact would be less than significant.

Table 5.3-6. Construction Activity Health Risk Assessment Results

Impact Parameter	Units	Proposed Project Impact	CEQA Threshold	Level of Significance
Cancer Risk	Per Million	1.43	10.0	Less than Significant
Chronic Hazard Index	Not Applicable	0.0008	1.0	Less than Significant

Source: Appendix B of this EIR

Health Impacts of Carbon Monoxide

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the proposed project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. A traffic impact analysis evaluated the level of service (LOS) (i.e., increased congestion) impacts at intersections affected by the proposed project (Appendix J of this EIR). The potential for CO hotspots was evaluated based on the results of the traffic report. As the city does not have CO hotspot guidelines, the County of San Diego's Guidelines CO hotspot screening guidance was followed to determine if the proposed project would require a site-specific hotspot analysis. The County recommends that a quantitative analysis of CO hotspots be performed for intersections operating at or below a LOS of "E" and have peak-hour trips exceeding 3,000 trips. The proposed project's traffic impact analysis does not indicate any intersections that would operate at or below a LOS of "E." However, a CO hotspot screening evaluation was conducted for two intersections: (1) El Camino Real and Tamarack Avenue and (2) El Camino Real and Cannon Road. The potential impact of the proposed project on local CO levels was assessed at these intersections with the Caltrans CL4 interface based on the California Line Source Dispersion Model, which allows microscale CO concentrations to be determined along each roadway corridor or near intersections. Model input and output data are provided in the *Air Quality and Greenhouse Gas Emissions Analysis Technical Report* prepared for the proposed project (Appendix B of this EIR).

As shown in Table 5.3-7, the maximum CO concentration predicted for the 1-hour averaging period at the studied intersections would be 4.7 ppm, which is below the 1-hour CO CAAQS of 20 ppm. The maximum predicted 8-hour CO concentration of 3.29 ppm at the studied intersections would be below the 8-hour CO CAAQS of 9.0 ppm. Neither the 1-hour nor 8-hour CAAQS would be equaled or exceeded at any of the intersections studied. Accordingly, the proposed project would not cause or contribute to violations of the CAAQS and would not result in exposure of sensitive receptors to localized high concentrations of CO. As such, impacts would be less than significant to sensitive receptors with regard to potential CO hotspots resulting from project contribution to cumulative traffic-related air quality impacts, and no mitigation is required.

Table 5.3-7. CALINE4 Predicted Carbon Monoxide Concentrations

Intersection	Maximum Modeled Impact (ppm)	
	1-hour	8-hour*
El Camino Real and Tamarack Avenue (2035)	4.5	3.15
El Camino Real and Cannon Road (2035)	4.7	3.29

Source: Appendix B of this EIR

Notes:

* 8-hour concentrations were obtained by multiplying the 1-hour concentration by a persistence factor of 0.70.

ppm=parts per million

Health Impacts of Other Criteria Air Pollutants

Construction and operation of the proposed project would not result in emissions that exceed the SDAPCD's emission thresholds for any criteria air pollutants. Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of which would not result in the exceedances of the SDAPCD's thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

In addition, VOCs and NO_x are precursors to O₃, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by the U.S. EPA as an attainment area for the 1-hour O₃ NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O₃ are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O₃ concentrations is the result of complex photochemistry. The increases in O₃ concentrations in the SDAB due to O₃ precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O₃ concentrations would also depend on the time of year that the VOC emissions would occur, because exceedances of the O₃ AAQS tend to occur between April and October when solar radiation is highest.

The holistic effect of a single project's emissions of O₃ precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with proposed project construction and operations could minimally contribute to regional O₃ concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in Coastal San Diego areas, health impacts would be considered less than significant.

Regarding NO₂, according to the construction emissions analysis, construction of the proposed project would not contribute to exceedances of the NAAQS and CAAQS for NO₂. Health impacts from exposure to NO₂ and NO_x are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term. Additionally, off-road construction equipment would operate at various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the proposed project would not require any stationary emission sources that

would create substantial, localized NO_x impacts. Therefore, health impacts would be considered less than significant.

The VOC and NO_x emissions, as described previously, would minimally contribute to regional O₃ concentrations and its associated health effects. In addition to O₃, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO₂. As shown in Table 3 of the *Air Quality and Greenhouse Gas Emissions Analysis Technical Report* prepared for the proposed project (Appendix B of this EIR), the existing NO₂ concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected that the proposed project's operational NO_x emissions would result in exceedances of the NO₂ standards or contribute to the associated health effects.

CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less than significant impact. Thus, the proposed project's CO emissions would not contribute to significant health effects associated with this pollutant. PM₁₀ and PM_{2.5} would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter, would not obstruct the SDAB from coming into attainment for these pollutants, and would not contribute to significant health effects associated with particulates.

Based on the preceding considerations, health impacts associated with criteria air pollutants would be considered less than significant.

Impact 5.3-5 Odors

Would the proposed project create objectionable odors affecting a substantial number of people?

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the proposed project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project includes residential and commercial uses, as well as an on-site urban farm. The urban farm, which would be professionally managed, would be considered a land use that is commonly associated with odors due to the presence of fertilizers, pesticides, and herbicides. The urban farm would be located as the furthest amenity from planned and existing residents, providing a buffer from any potential odors. The urban farm would be completely organic and biodynamic, which would significantly reduce the application of pesticides and fertilizers. The organic farm would be approximately 7,000 square feet and consist of raised beds. As the urban farm would apply pesticides and fertilizers in a very limited manner, odors related to the urban farm would be minimal. Therefore, proposed project operations would result in an odor impact that would be less than significant.

5.3.4 Level of Significance before Mitigation

Implementation of the proposed project would not result in a significant impact on air quality; therefore, no mitigation measures are proposed.

5.3.5 Environmental Mitigation Measures

No mitigation measures are proposed.

5.3.6 Level of Significance after Mitigation

No significant impacts on air quality have been identified.



5.4 Biological Resources

This section summarizes the biological resources within the project site, describes the regulatory framework for evaluating biological resources, and discusses potential impacts on biological resources as a result of implementation of the proposed project. The following document was used to analyze the potential impacts from the proposed project:

- *Biological Resources Report for the Marja Acres Project* (HELIX Environmental Planning, Inc. [HELIX] 2018) (Appendix C of this EIR)

The technical appendices are included on the attached CD found on the back cover of this EIR. Additional background information was also obtained from the *Carlsbad General Plan* (City of Carlsbad 2015a).

5.4.1 Existing Conditions

Vegetation Communities

Vegetation communities or habitat types are classified in this EIR according to the *Habitat Management Plan (HMP) for Natural Communities in the City of Carlsbad* (Carlsbad HMP). The Carlsbad HMP divides vegetation communities into six habitat groups (A through F). The vegetation communities mapped within the project site are categorized as Habitat Group F.

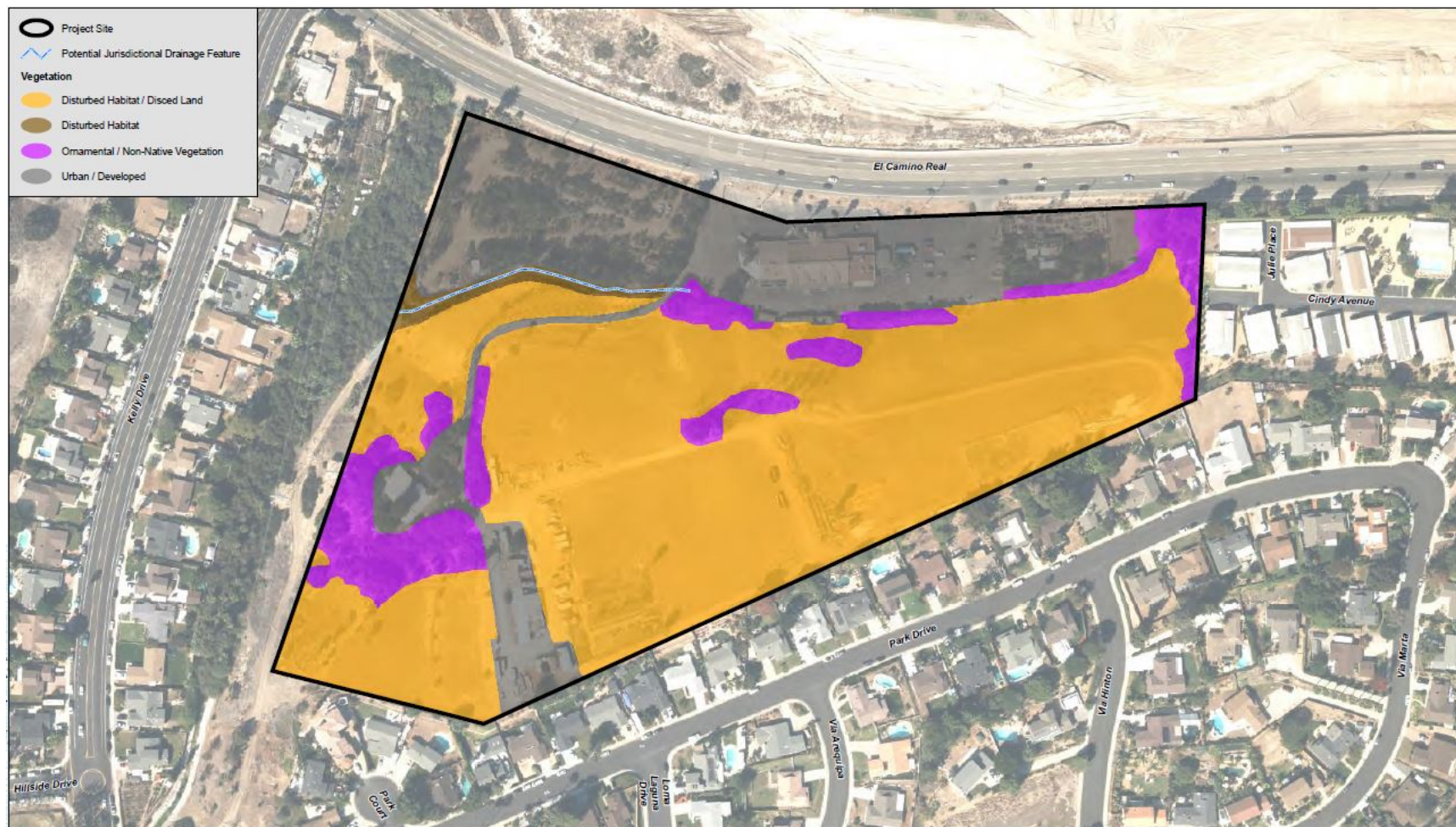
Four vegetation communities or land cover types were mapped within the project site during the general biological survey: disturbed habitat/disc'd land, disturbed habitat, ornamental/non-native vegetation, and urban/developed land. These vegetation communities are depicted on Figure 5.4-1. Table 5.4-1 summarizes the project site vegetation communities and land cover types. A brief description of each vegetation community is provided below.

Table 5.4-1. Vegetation Communities and Land Cover Types

Vegetation Community	Habitat Group	Existing Acreage
Upland		
Disturbed Habitat/Disc'd Land	F	12.4
Disturbed Habitat	F	0.3
Ornamental/Non-native Vegetation	F	2.1
Urban/Developed	—	5.7
TOTAL		20.5

Source: HELIX 2018 (Appendix C of this EIR)

Figure 5.4-1. Existing Biological Resources



Source: HELIX 2018 (Appendix C of this EIR)

Disturbed Habitat/Disced Land

For the purposes of the biological resources assessment, disturbed habitat/disced land includes areas that have been routinely disced and maintained for various uses on the property. The areas had been subject to agricultural uses decades ago, but no longer support active agriculture. The project site is subject to regular disturbance as a result of the existing and historic uses, which include a mix between previous (historic) agriculture and current commercial/retail uses. The disturbed land in the north, west, and southern portion, and urban/developed land in the north and western portion of the project site are all subject to regular human activity. The undeveloped portions of the project site have been routinely disced. The developed portions of the project site are maintained for commercial/retail use. Disturbed habitat/disced land encompasses approximately 12.4 acres of the project site.

Disturbed Habitat

Disturbed habitat or disturbed land includes land cleared of vegetation, land containing a preponderance of non-native plant and disturbance-tolerant species, or land showing signs of past or present usage that removes any capability of providing viable habitat. This classification includes ruderal (weedy) areas dominated by species typical of highly disturbed sites. This includes areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation association but continue to retain a soil substrate. Typical vegetation, if present, is composed of non-native plant species, such as nonnative ornamentals, non-native grasses, and ruderal species, that take advantage of disturbance.

Disturbed habitat accounts for 0.3 acre and is found bordering the on-site drainage feature in the most northwestern portion of the project site. This community type is a Category F of the Carlsbad HMP habitat groups. The primary factor used in mapping this habitat type was evidence of intense land disturbance, presence of bare ground, and non-native ruderal indicator plant species. Non-native forbs dominate this community where it occurs on site, including castor bean, Russian thistle, English plantain (*Plantago lanceolata*), black mustard (*Brassica nigra*), and fennel. Other non-native species found in lower densities include fox chess (*Bromus madritensis*), curly dock (*Rumex crispus*), tree tobacco (*Nicotiana glauca*), and orchard nettle (*Urtica urens*). A few scattered native species were also observed in this area, including arroyo willow (*Salix lasiolepis*) and prickly pear (*Opuntia littoralis*) in small amounts. There is evidence of trash, debris, and a prevalence of non-native species.

Ornamental/Non-Native Vegetation

Non-native vegetation is a category describing stands of vegetation heavily dominated by non-native grasses (e.g., oats [*Avena* sp.], foxtail chess [*Bromus madritensis*], pampas grass [*Cortaderia jubata*], and fountain grass [*Pennisetum setaceum*], etc.), bull thistle (*Cirsium vulgare*) and Russian thistle, ice plant (*Mesembryanthemum* spp.), eucalyptus (*Eucalyptus* sp.), and palm (Arecaceae) family. Much of the non-native vegetation is exotic and escapees from ornamental landscaping.

Non-native vegetation accounts for 2.1 acres and can be found in patches throughout the project site. This community type is a Category F of the Carlsbad HMP habitat groups. Dominant species include pampas grass (*Cortaderia* spp.) and eucalyptus with lower densities of castor bean, fountain grass, Russian thistle, fennel (*Foeniculum vulgare*), and garland daisy. An ornamental windrow of planted, western sycamore (*Platanus racemosa*), and Fremont cottonwood (*Populus fremontii*) cultivars were also mapped as ornamental/non-native vegetation in the eastern portion of the project site, generally following the southern and eastern perimeters of the existing pottery store.

Urban/Developed

Approximately 5.7 acres of the project site consists of developed lands, including a paved parking lot, commercial buildings, and a residence. Typical vegetation, if present, is composed of planted non-native plant species, such as non-native ornamentals, non-native grasses, and ruderal species. This community is not listed as a Carlsbad HMP habitat group because of a lack of vegetation and previous permanent impacts.

General Fauna

The project site is generally disturbed and does not provide extensive high-quality habitat for animal species. Overall animal activity during the general survey was low. Animal species observed or otherwise detected on site included bird species, such as Anna's hummingbird (*Calypte anna*), California towhee (*Melospiza crissalis*), house finch (*Haemorrhous mexicanus*), mourning dove (*Zenaidura macroura*), and northern mockingbird (*Mimus polyglottos*). A complete list of plant and animal species observed or otherwise detected is included in Appendix C of this EIR.

Sensitive Biological Resources

Sensitive Natural Communities

Sensitive natural communities include land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the CEQA Guidelines. Sensitive natural communities also include Habitat Groups A through E in the Carlsbad HMP. As shown in Table 5.4-1, the vegetation communities on the project site are identified as Category F of the Carlsbad HMP habitat groups. Furthermore, the project site does not support environmentally sensitive habitat areas (ESHA), either in the form of sensitive coastal upland habitat (e.g., coastal California gnatcatcher occupied coastal sage scrub) or sensitive coastal wetlands. Therefore, the project site does not support any sensitive natural communities.

Special-Status Plant Species

Special-status plant species are those listed as federally threatened or endangered by USFWS) state listed as threatened or endangered or considered sensitive by CDFW; and/or, are California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) List 1A, 1B, or 2 species, as recognized in the CNPS's inventory of rare and endangered vascular plants of California and consistent with the CEQA Guidelines. Special-status plant species also include those identified in the Carlsbad HMP. Special-status plant species with potential to occur are included in Appendix C of this EIR.

No special-status plant species were observed during the 2015, 2016, or 2017 biological surveys of the project site. Existing uses and disturbances, proximity to developments, and overall poor-quality habitat strongly reduce the potential for sensitive plants to occur. The existing developments have eliminated potential habitat, and the former agricultural uses have modified the project site landscape, soil, hydrology, and vegetation composition, which has substantially reduced the potential for special-status plant species to occur. Two horizontal strips of Diablo clay (15 to 30 percent slopes, eroded) and Salinas clay loam (2 to 9 percent slopes) are mapped over portions of the project site. However, these areas were closely inspected during surveys, and the overlying developments and former agricultural operations have either removed potential habitat within these areas entirely or substantially altered to the upper soil horizons rendering them unsuitable for clay-associated special-status plants.

Special-Status Animal Species

Special-status animal species are those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and considered sensitive animals by the CDFW. Special-status animal species also include those identified in the Carlsbad HMP. Special-status animal species with potential to occur on the project site are included in Appendix C of this EIR.

No special-status animals were observed during the 2015, 2016, or 2017 biological surveys of the project site. The potential for special-status animal species to occur within the project site is low because of the developed and disturbed state of the project site and surrounding lands, which are primarily developed with residences, commercial buildings, and roadways. No native or naturalized habitat occurs on the project site. The project site does not support an abundance of trees, shrubs, and other cover and resources that would attract and sustain special-status animal species that occur in the region. The existing uses and regular human activity would likely preclude most special-status animals from moving to the site. Existing uses and disturbances, proximity to developments, and lack of suitable habitat strongly reduce the potential for special-status animals to occur on the project site.

Nesting Birds and Raptors

The project site contains suitable nesting habitat (e.g., trees, shrubs, structures) for several common bird species, including raptors, protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (FGC).

Jurisdictional Waters and Wetlands

Jurisdictional waters and wetlands include WOUS, including wetlands, regulated by the USACE pursuant to CWA Section 404, waters of the state regulated by RWQCB pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act; streambed and riparian habitat regulated by the CDFW pursuant to Sections 1600 et seq. of California FGC; and/or coastal wetland and riparian habitat afforded protection under the Carlsbad LCP.

The potential boundaries of jurisdictional waters and wetlands were preliminarily delineated. As shown on Figure 5.4-1, an east to west trending, unnamed ephemeral drainage feature occurs in the northwestern portion of the project site. The on-site drainage feature has been subject to many years of man-made activities and is currently in a very disturbed state. The drainage feature's origin is largely a result of previous man-made activities involving fill and slope development at the present-day nursery location. This fill was pushed up against an adjacent, natural slope, creating an artificial crease in the landscape which, over time, became more and more eroded, eventually turning into a drainage ditch. The drainage primarily conveys stormwater sheet flowing off the developed parking lot for the existing commercial development. Flows are conveyed from east to west through the drainage before entering a corrugated pipe culvert that runs beneath an existing SDG&E dirt access road eventually out-falling into Kelly Creek, which runs north to south within the SDG&E easement.

In its current state, the drainage has characteristics of a relictual channel, ditch, and round-bottom swale. The contributing watershed has been highly modified over the years, with the most dramatic modification taking place over the last several years. The vast majority of the watershed that historically contributed flow during storm events at Robertson Ranch, across El Camino Real, has been developed and connectivity has been severed. In addition, the city has recently completed improvements to El Camino Real itself, adding curb and gutter and a major storm drain. Flows that historically entered the project site from Robertson Ranch and El Camino Real have been intercepted

and diverted from the project site and into the major storm drain facility constructed within El Camino Real.

Although portions of the drainage support a definable bed and bank and an inconsistent ordinary high-water mark, the drainage is ephemeral, and no wetlands or riparian habitat exists. Where vegetation is present, it is primarily non-native plant species, including several non-native invasives. Further, as mentioned above, the drainage's origin is largely a result of previous man-made activities, which, in combination with its function to collect and convey stormwater sheeting off the developed parking lot, reduces its overall function and service in the watershed.

Nevertheless, the drainage could qualify as non-wetland WOUS subject to USACE jurisdiction pursuant to CWA Section 404, non-wetland waters of the state subject to RWQCB jurisdiction pursuant to CWA Section 401, and unvegetated streambed subject to CDFW jurisdiction pursuant to California FGC Sections 1600 et seq. Table 5.4-2 summarizes the potential jurisdictional waters and wetlands on the project site.

The drainage feature is not considered a coastal wetland, coastal riparian habitat, or a coastal stream because of the complete lack of wetland indicators (i.e., lack of hydric soils, hydrophytic vegetation, and wetland hydrology) and riparian habitat. Furthermore, the drainage's origin is largely a result of previous man-made activities, which, in combination with its function to collect and convey stormwater sheeting off the developed parking lot, reduces its overall function and service in the watershed. In this way, the drainage is functioning more as a conveyance ditch with no plant or wildlife habitat value, biophysical wetland function, or benefit to coastal resources. Therefore, the drainage is not a coastal resource regulated under the Carlsbad LCP.

Table 5.4-2. Jurisdictional Waters and Wetlands

Jurisdictional Resource	Existing	
	Acres	Linear Feet
<i>Waters of the U.S./State – USACE/RWQCB Jurisdiction</i>		
Non-wetland waters/drainage ditch	0.02	450
<i>Streambed – CDFW Jurisdiction</i>		
Unvegetated streambed/drainage ditch	0.05	450

Source: HELIX 2018 (Appendix C of this EIR)

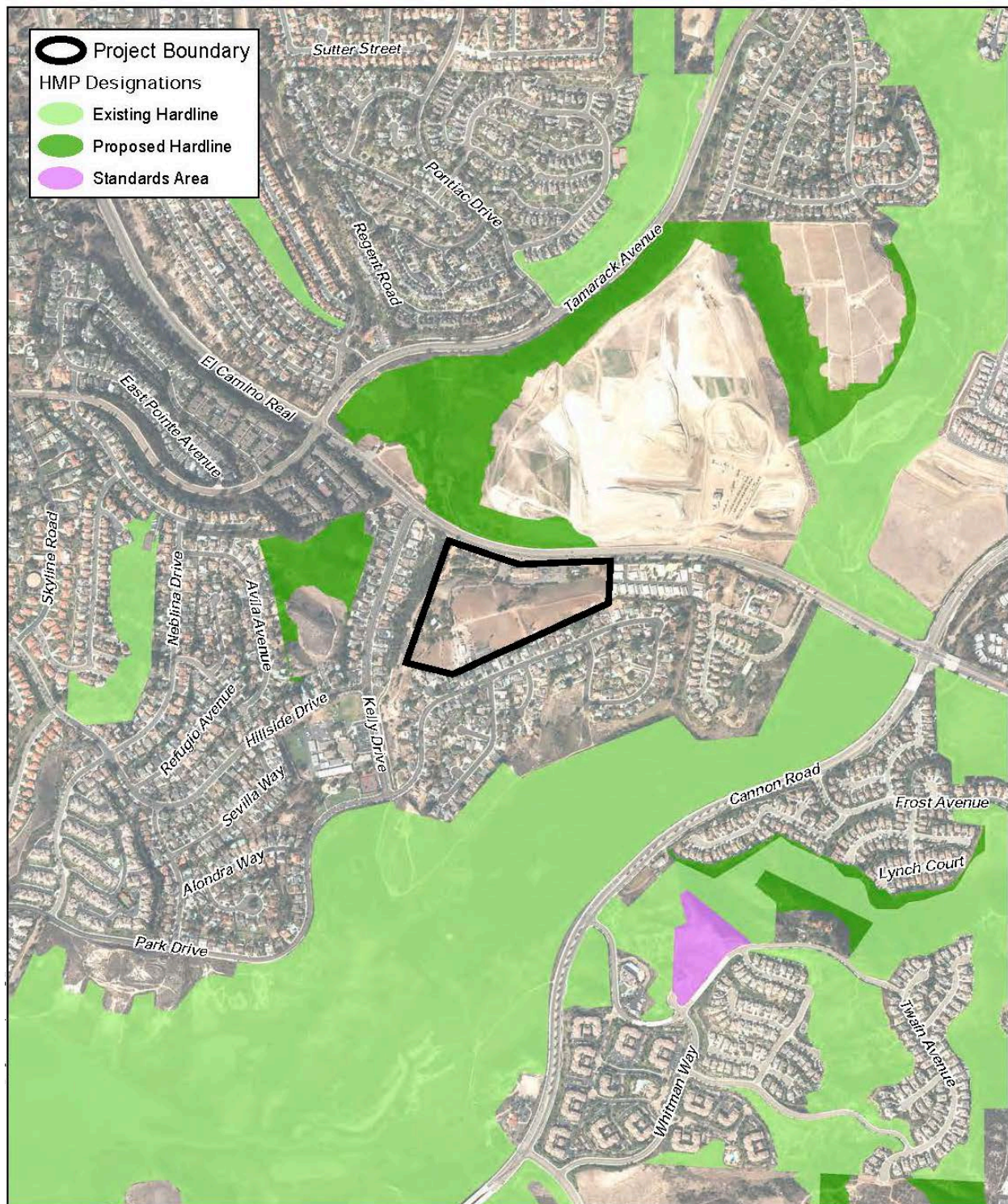
Wildlife Corridors and Linkages

Important corridors and linkages have been identified on a local and regional scale throughout the Multiple Habitat Conservation Program (MHCP) and Carlsbad HMP planning areas. The planning objectives of most corridors and linkages in coastal San Diego County include establishing a connection between the northern and southern regional populations of the coastal California gnatcatcher, in addition to facilitating movement and connectivity of habitat for large mammals and riparian bird species. As part of the MHCP, the Carlsbad HMP includes an assemblage of HMP cores, linkages, and special resource areas (SRA), with objectives to establish a network of habitat for the conservation of wildlife movement functions, primarily for birds and mammals.

The project site encompasses developed and undeveloped land within the Carlsbad HMP, outside of any HMP core, linkages, and SRA areas. Figure 5.4-2 depicts the project site in the context of the HMP's existing and proposed hardline areas. As shown, no HMP designation areas occur immediately adjacent to the site. "Proposed Hardline" is located offsite further to the north and west, and "Existing Hardline" is located offsite further to the east and south.

The project site is highly disturbed and adjacent to several developments, including El Camino Real to the north. Its function to facilitate wildlife movement in the local and regional area is limited because of existing impediments and lack of live-in and dispersal habitat. Common large mammals (e.g., coyotes) and birds could potentially use portions of the site for dispersal and foraging; however, they are far more likely to use off-site habitat within Kelly Creek further west of the site. There is no connectivity of on-site habitat with that which occurs off-site within Kelly Creek to the west; therefore, the site does not contribute to wildlife movement functions that may be associated with Kelly Creek.

Figure 5.4-2. Habitat Management Plan Designations



Source: HELIX 2018 (Appendix C of this EIR)

5.4.2 Regulatory Setting

Federal

Federal Endangered Species Act

Administered by USFWS, the Federal Endangered Species Act (FESA) provides the legal framework for the listing and protection of species that are identified as being endangered or threatened with extinction. Actions that jeopardize such species and their habitats are considered a “take” under the FESA. Sections 7 and 10(a) of the FESA regulate actions that could harm or harass endangered or threatened species. Section 10(a) allows issuance of permits for “incidental” take of endangered or threatened species. The term “incidental” applies if the taking of the listed species is secondary to, and not the purpose of, an otherwise lawful activity. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major activity if it may affect listed species. The Carlsbad HMP has been formally approved, which provides take authorization under Section 10(a).

Migratory Bird Treaty Act (16 United States Code §703-712)

The MBTA provides special protection for migratory families of birds (i.e., those avian species that winter south of the U.S. but breed within the U.S.) by regulating hunting or trade. The MBTA prohibits anyone to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 Code of Federal Regulations (CFR) 10, including feathers or other parts nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). “Take” is defined in 50 CFR 10.12 as “Take means to pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture or collect.” Only “collect” applies to nests. A December 22, 2017 Department of Interior memorandum (U.S. Department of the Interior 2017) provides additional guidance, concluding that the MBTA's prohibition on pursuing, hunting, taking, capturing, killing, or attempting to do the same applies only to direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control. Such activity is potentially punishable by fines and/or imprisonment. The use of families as opposed to individual species within the Act means that numerous nonmigratory birds are extended protection under the MBTA. Most nesting birds are covered by the MBTA.

Clean Water Act (33 United States Code §1251-1376)

The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to jurisdictional WOUS (including wetland/riparian areas) must obtain a state water quality certification that the discharge complies with other provisions of CWA. The RWQCBs administer the certification program in California.

Section 404 establishes a permit program administered by USACE regulating the discharge of dredge or fill material into WOUS, including wetlands, and jurisdictional non-wetland waters. The USACE has permit authority derived from Section 404 of the CWA (33 CFR Parts 320- 330). The permit review process includes an assessment of potential adverse impacts on wetlands and streambed habitats and determination of any required mitigation measures. As a condition of the 404 permitting process, a 401 water quality certification or waiver is required from the RWQCB. Where federally-listed species may be affected, a Section 7 consultation with the USFWS under the FESA is required.

State

California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA and is administered by the CDFW. State lead agencies are required to consult with CDFW to ensure any action it undertakes is not likely to jeopardize the continued existence of any state-listed endangered, threatened, or candidate plant and animal species. The take of a state endangered species is approved in a manner similar to that of the federal act, with a take permit being granted through Section 2081 of the CESA. In addition to listed species, the CDFW also maintains a list of “species of special concern,” including species whose breeding populations in California may face local extirpation. To avoid future listing of these species of special concern as endangered or threatened, the CDFW recommends consideration of these species (although they do not as yet carry legal status) during analysis of the impacts of proposed projects.

California Fish and Game Code Sections 3503, 3503.5, and 3800

These sections of the California FGC prohibit the take or possession of birds, their nests, or eggs. “Take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

California Coastal Act of 1976

The California Coastal Act (CCA) provides for the protection of environmentally-sensitive habitat identified by the CDFW from adjacent developments in the coastal zone. The CCA is California's coastal zone management program under the Coastal Zone Management Act. The CCA establishes the California Coastal Commission as having jurisdiction over California's coastal zone. Compliance with requirements in the CCA is ensured for specific development projects in the coastal zone through issuance of a Coastal Development Permit. In most incorporated areas within the coastal zone, compliance with the CCA is regulated by local government through the implementation of a certified LCP.

Local

Multiple Habitat Conservation Program

The MHCP is a comprehensive, multiple jurisdictional planning program designed to create, manage, and monitor an ecosystem preserve in northwestern San Diego County. It is one of several large, multiple jurisdictional habitat planning efforts in San Diego County, each of which constitutes a “subregional” plan under California's Natural Community Conservation Planning (NCCP) Act of 1991. The MHCP preserve system is intended to protect viable populations of native plant and animal species and their habitats in perpetuity, while accommodating continued economic development and quality of life for residents of North County San Diego.

The MHCP subregion encompasses the seven incorporated cities of northwestern San Diego County (Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista). These jurisdictions will implement their portions of the MHCP plan through citywide “subarea” plans, which describe the specific policies each city will institute for the MHCP. The Carlsbad HMP is the only approved and adopted subarea plan under the MHCP.

City of Carlsbad Habitat Management Plan

Since its adoption, the Carlsbad HMP has allowed for citywide permits and authorization for the incidental take of sensitive species in conjunction with private development projects, public projects, and other activities which are consistent with the Carlsbad HMP. The Carlsbad HMP designates approximately 6,500 acres of the open space lands in Carlsbad for preservation based on its value as habitat for endangered animals and rare, unique, or sensitive plant species. The Carlsbad HMP identifies how the city can protect and maintain these lands while still allowing additional public and private development consistent with the *Carlsbad General Plan* (City of Carlsbad 2015a) and the Growth Management Plan.

In-Lieu Mitigation Fee. The Carlsbad HMP established an in-lieu mitigation fee that is assessed on development projects based on the following criteria:

1. The fee will be required in addition to any mitigation required of a project by the HMP or CEQA.
2. The fee will be calculated on a per acre basis according to the mitigation ratios contained in Table 11 of the Carlsbad HMP for habitat impacted and not conserved on site. Only Habitat Groups D, E, and F as shown in Table 11 of the HMP shall be eligible to pay the fee for impacted habitat. Groups A, B, and C shall be subject to off-site mitigation for impacted habitats according to the ratios contained in Table 11 of the HMP.
3. Habitat Group F on Table 11 of the HMP (disturbed lands, agriculture lands, and eucalyptus). Although it will be necessary to conduct the fee study required by AB 1600, based on staff's initial analysis, staff anticipates the fee for impacting disturbed habitat/agriculture land should be set to no more than \$500 per acre.
4. The fee will not be assessed against any parcel that has been graded pursuant to a valid grading permit within the past 5 years.
5. The fee will not be required where at least 67 percent of the habitat on a property or project is being conserved.
6. The fee will be calculated and collected at issuance of Grading Permit.

Habitat Preservation and Management Requirements

Chapter 21.210 of the CMC requires all development to comply with the Carlsbad HMP, as well as the implementing agreement, permit conditions, the MHCP, the NCCP and 10(a)(1)(B) permit conditions, and the requirements contained in Habitat Preservation and Management Requirements Ordinance. No grading is allowed to occur for projects in Carlsbad until all the processing and permitting requirements of this chapter are fulfilled. The purpose and intent of the Habitat Preservation and Management Requirements Ordinance are to:

- Implement the goals and objectives of the land use and the open space/conservation elements of the *Carlsbad General Plan*
- Implement the Carlsbad HMP, the implementing agreement and conditions, the North County MHCP, the California NCCP and 10(a)(1)(B) permit conditions
- Preserve the diversity of natural habitats in Carlsbad and protect the rare and unique biological resources located within those habitats
- Assure all development projects comply with the habitat preservation and conservation standards contained in the Carlsbad HMP

- Provide a process for permitting limited, incidental impacts to occur to natural habitat areas and the species located therein
- Provide a process for allowing minor amendment from the habitat preservation and conservation standards under limited, specified circumstances.

An HMP permit is required to be obtained from the city for any development project which directly or indirectly impacts natural habitat within the Carlsbad HMP boundaries. Habitat conservation planning is processed as a consistency finding and requires concurrence from the USFWS and CDFW.

Zone Level Recommendations

The proposed project is situated within LFMZ 1 (Zone 1) of the Carlsbad HMP planning area. Zone Level Recommendations for Zone 1 as specified in the Carlsbad HMP include avoiding removal of maritime succulent scrub and any patches of coastal scrub in or contiguous with biological core areas, preservation of at least 50 percent of coastal sage scrub with preference for avoidance of any areas that contain coastal California gnatcatchers (*Polioptila californica californica*), and mitigation for native habitats by creation or enhancement of like habitats adjacent to lagoons or by offsite compensation or restoration within biological core and linkage areas.

Coastal Resource Protection Overlay Zone Ordinance

Chapter 21.203 of the CMC requires that projects demonstrate consistency with the approved Carlsbad LCP and obtain a CDP for developments within the coastal zone. The proposed project occurs within the boundaries of the coastal zone within Carlsbad, as identified within the approved Carlsbad LCP. The city uses its LCP as a planning tool to guide development in the coastal zone, in partnership with the CCC. The LCP contains the ground rules for future development and the protection of coastal resources. The Carlsbad LCP includes two main components: a land use plan and related implementing measures including a zoning map, and zoning ordinance. In particular, the land use plan includes measures specifically intended to protect natural open space resources, scenic resources, agricultural lands, and public access rights. Nearly all development proposals within the coastal zone, from removal of natural vegetation, to the construction of master planned communities, require the approval of a CDP in addition to any other permits or entitlements. The city issues CDPs in all adopted Carlsbad LCP segments within their jurisdictional boundaries with the exception of the Agua Hedionda Lagoon segment of the Carlsbad LCP, which is a deferred certification area. The CDPs in the Agua Hedionda Lagoon segment of the Carlsbad LCP are issued by the CCC. The CDPs issued by the city are appellate to the CCC only if they are located within an appeals area. In conformance with the LCP, the city regulates developments within the coastal zone according to the Coastal Resource Protection Overlay Zone (CRPOZ) Ordinance. The CRPOZ requires that project applicants obtain a CDP.

Coastal Zone Standards

Environmentally sensitive areas as defined in Section 30107.5 of the CCA shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed in those areas. "ESHA are any areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. Impacts to sensitive habitat, when permitted, shall include a creation component that achieves the no net loss standard.

City of Carlsbad General Plan, Open Space, Conservation, and Recreational Element

The Open Space, Conservation, and Recreation Element of the *Carlsbad General Plan* establishes policies for the development of a comprehensive, connected open space system and the protection and conservation of the city's natural and historic resources. The Open Space, Conservation, and Recreation Element contains numerous goals, objectives, and policies to protect and conserve sensitive plant and animal life species. The proposed project's consistency with applicable goals and policies is discussed under Impact 5.4-5 below.

5.4.3 Project Impacts

Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts on biological resources would be considered significant if the project was determined to:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS
- 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 CDFW or USFWS
- Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- 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
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

Impact Analysis

Impact 5.4-1 Candidate, Sensitive, or Special Status Species

Would the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Special-Status Plant Species

Special-status plant species are not likely to occur within the project site; none were observed during surveys, including the 2017 rare plant survey (Appendix C of this EIR), which was conducted during an optimal rainfall year. Therefore, no special-status plant species are expected to be impacted by the proposed project. Existing developments have eliminated potential habitat on the project site and the historic agricultural uses and regular discing have modified the landscape, soil, hydrology, and vegetation composition of the project site, which has substantially reduced the potential for

special-status plant species to occur. Two horizontal strips of Diablo clay (15 to 30 percent slopes, eroded) and Salinas clay loam (2 to 9 percent slopes) are mapped over portions of the project site; however, these areas were closely inspected during surveys, and the overlying developments and historic agricultural lands have either removed potential habitat within these areas entirely or substantially altered to the upper soil horizons rendering them unsuitable for clay-associated special-status plants. Therefore, special-status plant species are not likely to occur on the project site, and none would be impacted by the proposed project.

Special-Status Animal Species

The potential for special-status animal species to occur within the project site is low because of the existing and historic uses and overall disturbed and developed state of the project site and surrounding lands, which are primarily developed with residences, commercial buildings, and roadways. No native or naturalized habitat occurs on the site. Further, the project site does not support an abundance of trees, shrubs, and other cover and resources that would attract and sustain special-status animal species that occur in the region. The existing uses and regular human activity would also likely preclude most special-status animals from moving onto the site. Therefore, special-status animal species are not likely to occur on the project site, and none would be impacted by the proposed project.

Nesting Birds

The project site contains trees, shrubs, and other vegetation that provide marginal nesting habitat for common birds, including sensitive birds and raptors, protected under the MBTA and California FGC. Construction of the proposed project could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts on nesting birds and violation of the MBTA and California FGC. Direct impacts could occur as a result of removal of vegetation supporting an active nest. Impacts would be considered significant. Implementation of Mitigation Measure BIO-1 would reduce the potentially significant impact on nesting birds and raptors to a level less than significant.

Impact 5.4-2 Sensitive Natural Community

Would the proposed project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

Implementation of the proposed project would result in a direct impact to the vegetation community acreages, as presented in Table 5.4-3. The limits of impact for the proposed project are illustrated on Figure 5.4-3. As shown in Table 5.4-3, project development would only impact common upland habitat types (Carlsbad HMP Habitat Group F) that are not sensitive natural communities. Furthermore, the project site does not support ESHAs. Impacts to non-sensitive upland habitat types require purchase of in-lieu fee credits under the HMP as detailed in Mitigation Measure BIO-2. Prior to recordation of a final map or issuance of a grading permit, whichever occurs first, the proposed project shall pay habitat in-lieu mitigation fees according to the ratios and amounts established by the HMP.



Table 5.4-3. Impacts on Vegetation Communities

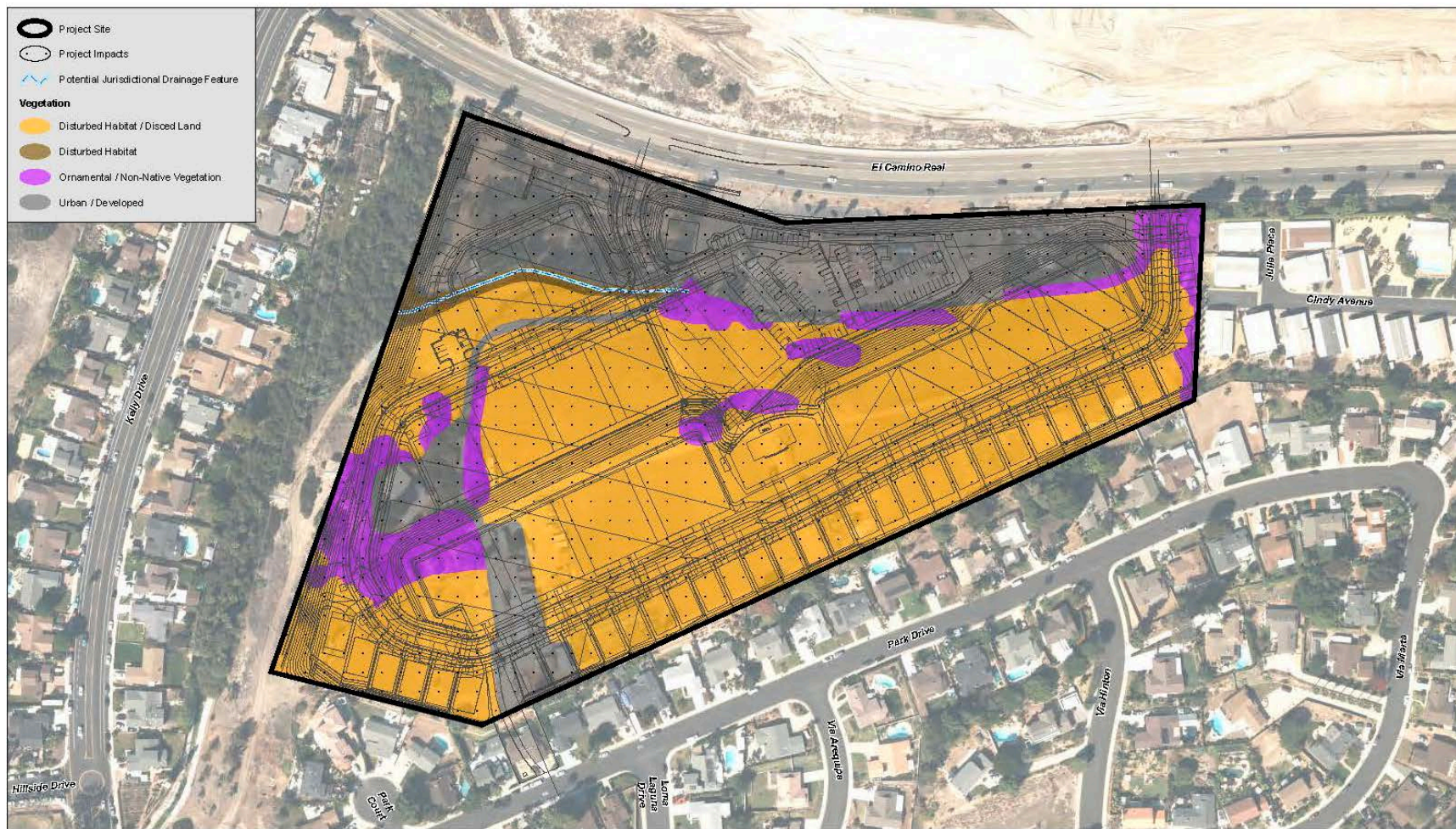
Vegetation Community	Habitat Group	Existing Acreage	Impact Acres
Disturbed Habitat/Disced Land	F	12.4	12.4
Disturbed habitat	F	0.3	0.3
Ornamental/non-native vegetation	F	2.1	2.1
Urban/developed	-	5.7	5.7
TOTAL		20.5	20.5

Source: HELIX 2018 (Appendix C of this EIR)

Potential significant indirect impacts could occur if stormwater runoff is not controlled at the construction site, and sediment, toxics, and/or other material is inadvertently carried into sensitive habitat within the adjacent off-site Kelly Creek. Further, if the construction work areas are not properly fenced, inadvertent encroachment into adjacent sensitive riparian habitat associated with Kelly Creek could occur. Compliance with existing regulations for water quality, stormwater management, and implementation of Mitigation Measure BIO-3 and Mitigation Measure WQ-1 (described in Section 5.9, Hydrology and Water Quality, of this EIR) would reduce potentially significant impacts on sensitive natural communities to a level less than significant.

As discussed in Section 5.9, Hydrology and Water Quality of this EIR, once constructed, the proposed project uses would likely generate certain pollutants that could affect water quality downstream from the project site. The potential water quality impact associated with operation of the proposed project is considered a significant impact. However, Mitigation Measure WQ-2 requires the developer to prepare a SWQMP and submit improvements plans that demonstrate that pollutants will be controlled through compliance with the City of Carlsbad BMP Design Manual. Implementation of Mitigation Measure WQ-2 would reduce potentially significant water quality impacts during operations to a level less than significant.

Figure 5.4-3. Vegetation and Sensitive Resources Impacts



Source: HELIX 2018 (Appendix C of this EIR)

Impact 5.4-3 Jurisdictional Waters

Would the proposed project have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

According to the biological resources report prepared for the project (Appendix C of this EIR), no federally-protected wetlands, as defined by CWA Section 404, occur on the project site. Therefore, implementation of the proposed project would not result in an impact to federally-protected wetlands. However, the project site supports a low-quality drainage ditch (Figure 5.4-1) that could qualify as non-wetland WOUS subject to USACE jurisdiction pursuant to CWA Section 404, non-wetland waters of the state subject to RWQCB jurisdiction pursuant to CWA Section 401, and unvegetated streambed subject to CDFW jurisdiction pursuant to California FGC Sections 1600 et seq.

The drainage feature is not considered a coastal wetland, coastal riparian habitat, or a coastal stream because of the complete lack of wetland indicators (i.e., hydric soils, hydrophytic vegetation, and wetland hydrology) and riparian habitat. Furthermore, the drainage's origin is largely a result of previous man-made activities, which in combination with its function to collect and convey stormwater sheeting off the developed parking lots, reduces its overall function and service in the watershed. In this way, the drainage is functioning more as a conveyance ditch with no plant or wildlife habitat value, biophysical wetland function, or benefit to coastal resources. Therefore, the drainage is not a coastal resource regulated under the Carlsbad LCP.

Existing regulations require the USACE, RWQCB, and CDFW be notified and, if required, permits and approvals be obtained from these agencies prior to the impacts occurring. Mitigation for impacts shall occur at a minimum 1:1 ratio through on- and/or off-site establishment/re-establishment, rehabilitation, enhancement, and/or preservation. Implementation of Mitigation Measure BIO-4 would ensure the appropriate regulatory permits are obtained and mitigation obligations are fulfilled in accordance with existing regulations pertaining to non-wetland WOUS/waters of the state and unvegetated streambed. Implementation of Mitigation Measure BIO-4 would reduce the potentially significant impact to jurisdictional waters to a level less than significant.

Impact 5.4-4 Wildlife Corridors

Would the proposed 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?

The project site encompasses developed and undeveloped land within the Carlsbad HMP, outside of any HMP core, linkages, and SRA areas. The project site is highly disturbed and adjacent to several developments, including El Camino Real to the north. Its function to facilitate wildlife movement in the local and regional area is limited because of existing impediments and lack of live-in and dispersal habitat. Common large mammals (e.g., coyotes) and birds could potentially use portions of the project site for dispersal and foraging; however, they would not use the project site as a wildlife corridor, specific travel route, or when traveling to and from nursery sites because of lack of suitable habitat and resources. Wildlife is more likely to use off-site habitat within Kelly Creek, west of the project site, from which the project has been setback a minimum of 50 feet from the riparian area. This is consistent with the setback standards in LCP Section 3-1.12 and therefore will have no direct or indirect impacts. There is no connectivity of on-site habitat which occurs off site within Kelly Creek to the west; therefore,

the project site does not contribute to wildlife movement functions that may be associated with Kelly Creek.

Project construction will be restricted to daytime hours and would not be expected to result in any adverse indirect impacts on off-site habitat adjacent to the site. Construction work limits will be contained within temporary construction fencing in accordance with Mitigation Measure BIO-3. Project operation has the potential to result in significant indirect impacts on wildlife potentially using off-site habitat associated with Kelly Creek if lighting is not appropriately shielded and directed downward and away. Mitigation Measure BIO-5 would ensure proposed project lighting located along the western boundary of the project site is controlled, which would reduce the potential indirect impact associated with light spillover to a level less than significant.

Impact 5.4-5 Conflict with Local Policies or Ordinances

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

The project's consistency with local policies or ordinances protecting biological resources is described below.

Consistency with Chapter 21.203 of the Carlsbad Municipal Code (Coastal Resource Protection Overlay Zone Ordinance)

The proposed project was evaluated for consistency with the Carlsbad LCP and adopted ordinance regulations in Chapter 21.203 of the CMC and CCRPOZ Ordinance. With respect to biological resources, the project site contains no coastal resources of significance or environmentally-sensitive areas. The drainage feature on site is not considered a coastal wetland, coastal riparian habitat, or a coastal stream because of the complete lack of wetland indicators (i.e., hydric soils, hydrophytic vegetation, and wetland hydrology) and of riparian habitat. Furthermore, the drainage's origin is largely a result of previous man-made activities, which in combination with its function to collect and convey stormwater sheeting off the developed parking lots, reduces its overall function and service in the watershed. In this way, the drainage is functioning more as a conveyance ditch with no plant or wildlife habitat value, biophysical wetland function, or benefit to coastal resources. Therefore, the drainage is not a coastal resource regulated under the Carlsbad LCP. As such, no significant impact would occur to environmentally-sensitive areas, including coastal wetlands and riparian habitat, as defined in Section 30107.5 of the CCA and the Carlsbad LCP. Therefore, the proposed project would not conflict with the biological resources-related requirements of Chapter 21.203 of the CMC and CRPOZ Ordinance.

Consistency with Chapter 21.210 of the Carlsbad Municipal Code (Habitat Management Plan Ordinance)

The proposed project was evaluated for consistency with the Carlsbad HMP and adopted ordinance regulations in Chapter 21.210 of the CMC. Demonstration of consistency with the Carlsbad HMP is required before an HMP permit can be issued. Project consistency with the Carlsbad HMP is analyzed under Impact 5.4-6 below. As demonstrated, the proposed project would not conflict with the Carlsbad HMP.

Impact 5.4-6 Conflict with Adopted Habitat Management Plan

Would the proposed 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?

The project site occurs within the boundaries of the Carlsbad HMP, outside of any HMP core, linkages, and SRA areas. No HMP designations occur on or immediately adjacent to the project site. No suitable habitat for HMP species occurs on site, and impacts are restricted to non-sensitive, HMP Group F habitat types and developed land. The proposed project would be consistent with the Carlsbad HMP, as detailed below.

Consistency with Zone Level Recommendations

The project site is located within LFMZ Zone 1 of the Carlsbad HMP planning area. Zone level recommendations for Zone 1 as specified in the Carlsbad HMP include avoiding removal of maritime succulent scrub and any patches of coastal scrub in or contiguous with biological core areas, preservation of at least 50 percent of coastal sage scrub with preference for avoidance of any areas that contain coastal California gnatcatchers (*Poliioptila californica californica*), and mitigation for native habitats by creation or enhancement of like habitats adjacent to lagoons or by off-site compensation or restoration within biological core and linkage areas.

The proposed project is consistent with zone level recommendations of the Carlsbad HMP. None of the resources targeted for conservation in LFMZ 1 occur on or immediately adjacent to the project site. No maritime succulent scrub, coastal scrub, coastal sage scrub, suitable habitat for coastal California gnatcatcher or other resources occur. Therefore, none would be impacted and the proposed project would be consistent with the LFMZ 1 recommendations.

Consistency with Habitat Management Plan Species Requirements

The Carlsbad HMP states that the primary mitigation for impacts on HMP species under the plan is the conservation and management of habitat for species in the preserve system. It also states that incidental take must be minimized and mitigated to the maximum extent practicable. Table 9 of the Carlsbad HMP provides specific minimization and mitigation measures for covered species (City of Carlsbad 2004).

The proposed project is consistent with the goals and objectives for HMP species. No suitable habitat for sensitive plant and wildlife species, including HMP species, occurs on the project site. Impacts are restricted to non-sensitive, HMP Group F habitat and developed land. Therefore, no HMP species would be directly impacted. As previously indicated above, impacts to non-sensitive upland habitat types require purchase of in-lieu fee credits under the HMP as detailed in Mitigation Measure BIO-2. As addressed under Impact 5.4-5, the project is set back (a minimum of 50 feet from the riparian area) from off-site riparian habitat associated with Kelly Creek further west; suitable habitat for sensitive plant and animal species within this off-site habitat would be avoided, and no direct impacts would occur. Mitigation Measure BIO-1 would ensure no direct or indirect impacts occur to nesting birds, including HMP species. Mitigation Measure BIO-3 would ensure that off-site sensitive habitat is not impacted by construction activities, and Mitigation Measure BIO-5 would ensure that the adjacent habitat is protected from project lighting. Therefore, implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-5 would ensure consistency with HMP species requirements.

Consistency with Habitat Management Plan Adjacency Standards

No Carlsbad HMP designations occur on or immediately adjacent to the project site. Project development will occur well outside of Carlsbad HMP existing hardline and proposed future hardline. El Camino Real separates the project site and the Carlsbad HMP existing hardline to the north. Commercial and residential development separates the proposed project from other adjacent hardline and future proposed preserve areas. The western boundary of the project will abut Kelly Creek; however, adequate setbacks (a minimum of 50 feet from the riparian area) have been implemented, and the proposed project will further implement the adjacency standards detailed below.

The proposed project is consistent with the Carlsbad HMP adjacency standards, as follows:

- **Fire Management:** Fire management includes both the recognition that fire is an important component of natural ecosystems in Southern California, while insuring public safety for areas adjacent to the HMP preserve. The project does not propose any structures adjacent to native habitat or preserve area that would require fuel modification or brush management. A fire management plan is not anticipated to be required by the city. Therefore, the proposed project would be consistent with this adjacency standard.
- **Erosion Control:** Erosion can become an issue where steep, erodible slopes occur or where areas lack vegetation. All slopes adjacent to the Kelly Creek corridor will be adequately compacted, vegetated, and maintained to avoid significant erosion onto the drainage. The proposed project will be required to implement the Stormwater Pollution Prevention Plan (SWPPP) during construction, which will implement erosion control measures and prevent inadvertent erosion and sedimentation from the construction site. The proposed project further incorporates a progressive water quality management plan that will ensure all water is controlled, treated, and velocities managed on site before discharging off site. Therefore, the proposed project would be consistent with this adjacency standard.
- **Landscaping Restrictions:** Invasive plant species will not be included in landscaping palettes anywhere on the project site. Irrigation will be designed to minimize runoff from landscaped areas, and pesticide/herbicide application will avoid overspray and drift into preserve areas. The landscaping palette will not include native plants or propagules from distant source populations, nor will it include cultivated species known to hybridize with related native species. No species on the California Invasive Plant Council's (Cal-IPC) "invasive plant inventory" list shall be included. Furthermore, the proposed project will comply with the city's Landscape Manual. The Landscape Manual restricts the use of invasive species to landscaped areas. Therefore, the proposed project would be consistent with this adjacency standard.
- **Fencing, Signs, and Lighting:** Permanent fencing shall be provided along areas that occur between proposed developments and off-site sensitive habitat. In addition, signage and stenciling will be implemented as best management practices (BMP) and notification at storm drain inlets (required as part of Mitigation Measure WQ-2). Excessive lighting can adversely affect animal species potentially using adjacent habitat. All exterior lighting adjacent to preserved habitat, including lighting required for parking lot developments, shall be limited to low pressure sodium or alternative sources of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to the maximum extent practicable. Implementation of Mitigation Measure BIO-5 would ensure project lighting does not adversely affect adjacent habitat. The proposed project would be consistent with this adjacency standard with the incorporation of the required fencing, sign, and lighting specifications.

- Predator and Exotic Species Control:** Domesticated animals, particularly cats, are known to impact native wildlife in the habitat areas immediately adjacent to development. Project fencing and the maintenance of healthy predator populations (coyote and bobcat) will minimize introduction of domestic animals. In addition, exotic species can escape from landscaped areas and establish within the preserve area. No domesticated animals are anticipated to be introduced by the proposed project because of the fact it is separated from existing and proposed HMP Hardline areas by residential development or a major roadway (El Camino Real, which is six lanes wide with a median). The proposed project site is not located immediately adjacent to, or otherwise interface with and HMP hardline preserve area (Figure 5.4-2). Therefore, the proposed project would be consistent with this Adjacency Standard.

5.4.4 Level of Significance before Mitigation

Implementation of the proposed project would result in potentially significant impacts on sensitive vegetation communities, special-status wildlife, and jurisdictional waters.

5.4.5 Environmental Mitigation Measures

The following mitigation measures, in addition to Mitigation Measures WQ-1 and WQ-2 (identified in Section 5.9, Hydrology and Water Quality of this EIR), shall be implemented by the applicant to minimize impacts on biological resources:

- BIO-1 Nesting Bird and Raptor Avoidance.** If initial grading and vegetation removal activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird breeding season for migratory birds and raptors (January 15 and September 15), the project applicant shall retain a qualified biologist to perform a preconstruction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the MBTA and California FGC. The preconstruction survey shall be performed no more than 7 days prior to the commencement of grading and/or vegetation removal activities. If the qualified biologist determines no active migratory bird or raptor nests occur, the activities shall be allowed to proceed without any further requirements. Should an active nest of any MBTA-covered species occur within or adjacent to the project impact area, a 100-foot buffer (300 feet for raptors) shall be established around the nest, and no construction shall occur within this area until a qualified biologist determines the nest is no longer active or the young have fledged.
- BIO-2 Habitat Management Plan In-Lieu Mitigation Fee.** Prior to recordation of a final map or issuance of a grading permit, whichever occurs first, the project applicant shall pay habitat in-lieu mitigation fees according to the ratios and amounts established by the HMP for Natural Communities in the City of Carlsbad.
- BIO-3 Construction Fencing.** The applicant shall show the locations of temporary construction fencing with the first submittal of grading plans. Temporary construction fencing (with silt barriers) shall be installed at the limits of project impacts (including construction staging areas and access routes) adjacent to sensitive habitat to prevent sensitive habitat impacts and the spread of silt from the construction zone into adjacent habitats. Fencing may be required at the western end of the project to separate project impacts from the off-site sensitive habitat of Kelly Creek. Fencing shall be installed in a manner that does not impact habitats to be avoided. The applicant shall submit to the City of Carlsbad for approval at

least 30 days prior to grading permit issuance, the final plans for project construction. These final plans shall include photographs that show the fenced limits of impact and areas to be impacted or avoided.

Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas within the fenced project impact limits. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner to prevent any runoff from entering adjacent open space and shall be shown on the construction plans. Fueling of equipment shall take place within existing disturbed areas greater than 100 feet from Kelly Creek. Contractor equipment shall be checked for leaks prior to operation and repair, as necessary. "No-fueling zones" shall be designated on construction plans.

If work occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the city's satisfaction. Any impacts that occur to environmentally sensitive areas beyond the approved fence shall be mitigated in accordance with ratios specified in the Carlsbad HMP or as otherwise determined by the City of Carlsbad in coordination with the USFWS, USACE, RWQCB, and/or CDFW. Temporary construction fencing shall be removed upon project completion.

BIO-4 Regulatory Permitting and Compensatory Mitigation. Impacts to all or portions of the unnamed drainage ditch on the project site shall require the following agency notifications and permits prior to approval of the final map:

- The project applicant shall prepare and submit notification to the USACE for unavoidable impacts to non-wetland WOUS. Based on USACE's CWA Section 404 NWP program, project activities would be covered under NWP 29 – Residential Developments, contingent upon waiver of the 300 linear feet limit for this permit.
- The project applicant shall prepare and submit a CWA Section 401 Request for Water Quality Certification to the RWQCB for unavoidable impacts to non-wetland waters of the state.
- The project applicant shall prepare and submit a California FGC Section 1602 Notification of Lake or Streambed Alteration to the CDFW for unavoidable impacts to unvegetated jurisdictional streambed.

If required by the USACE, RWQCB, and/or CDFW in regulatory permits, the project applicant shall implement compensatory mitigation at a minimum ratio of 1:1 for the unavoidable loss of jurisdictional waters, which would include one or a combination of the following measures:

- The project applicant shall purchase preservation, establishment/re-establishment, rehabilitation, and/or enhancement credits from a mitigation bank approved by the USACE, RWQCB, and/or CDFW; and/or,
- The project applicant shall implement permittee-responsible preservation, establishment, re-establishment, rehabilitation and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including

preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW. A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area, and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW.

- BIO-5 Project Lighting.** Prior to issuance of a grading permit or building permit, whichever is applicable for the particular lighting, the applicant shall submit an exterior lighting plan for City Planner approval. All exterior lighting adjacent to off-site habitat associated with Kelly Creek to the west shall be limited to low pressure sodium or alternative sources in the amber spectrum of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from habitat to the maximum extent practicable.

5.4.6 Level of Significance after Mitigation

Implementation of Mitigation Measures BIO-1 through BIO-5, WQ-1, and WQ-2 would reduce impacts on biological resources to a level less than significant.

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5.5 Cultural Resources

This section describes the regulatory framework for evaluating cultural and paleontological resources and discusses potential impacts on tribal, archaeological, historic, and paleontological resources as a result of implementation of the proposed project. The following technical study analyzes the potential impacts from the proposed project:

- *Cultural Resources Study for the Marja Acres Project* (Brian F. Smith and Associates, Inc., [Brian F. Smith and Associates] 2016) (Appendix D of this EIR)

The technical appendices are included on the attached CD found on the back cover of this EIR. Additional background information was also obtained from sources noted in the following sections.

5.5.1 Existing Conditions

Brief History of Carlsbad

Carlsbad has abundant historic resources representing human settlements that date thousands of years into the past. The following historical information is derived from the Arts, History, Culture, and Education Element of the *Carlsbad General Plan* (City of Carlsbad 2015a) and the *Carlsbad Tribal, Cultural and Paleontological Resources Guidelines* (City of Carlsbad Guidelines) (City of Carlsbad 2017a).

Native American History

Carlsbad is located in a culturally-rich region which has long been home to, or within traditional use areas of, Native American cultures. The cultural history of Carlsbad is complex. Prior to 1769, two main cultures occupied the area including what is currently known as Carlsbad: the Luiseño and the Diegueño (or Kumeyaay). The Luiseño inhabited most of the area drained by the San Luis Rey and Santa Margarita Rivers. When the Spanish arrived in southern California in 1769, it is estimated that there were 50 Luiseño villages with a population of about 200 each, suggesting a total population of about 10,000. The Kumeyaay were ancestrally located in the southern portion of Carlsbad, southeast into Imperial County and south into Baja California. It is estimated that the Kumeyaay population was about 9,000 at the time of European contact in 1769.

Spanish and Mexican History

In 1769, Spanish explorers of the Portolá Expedition first arrived from Mexico and camped near Agua Hedionda Lagoon. Missions were established by Franciscan friars to convert, educate, and control the native population. Mission San Diego was established to convert the Kumeyaay. Mission San Luis Rey was established in 1798 on the lower San Luis Rey River to convert the Luiseño. When Mexico achieved independence from Spain in 1821, land ownership and land use patterns evolved, igniting the Rancho period in California history, where large tracts of land were granted to settlers and government friends to encourage settlement and cattle raising. In 1833, the mission holdings were secularized and divided into large land grants. Under the secularization law, Indian pueblos were supposed to be created but the only pueblo in Luiseño territory was Las Flores on the coast north of the Santa Margarita River established on one of the former mission ranches. Much of greater Carlsbad was part of Rancho Agua Hedionda, a 13,000-acre ranch granted to Juan María Marrón by the Mexican governor of Alta California in 1842. The holdings extended from the Pacific Ocean east

toward Vista and from the north side of Agua Hedionda Lagoon south to Leucadia in present-day Encinitas.

Early American Period

After Mexico lost the Mexican-American War in 1848, the U.S. government took control of California. The rapid population increase brought about by the Gold Rush of 1849 allowed California to become a state in 1850. The U.S. government considered the Luiseño to be Mission Indians who were not U.S. citizens; they would not be granted citizenship until Congress passed the Indian Citizenship Act in 1924. After the Civil War, the development of railroads had an enormous effect on the development of California and the western U.S. The California Southern Railroad, with its link to a transnational railroad, proved crucial to the transformation of the San Diego region from a farming community to a small city of emerging industry, mercantile, and agricultural expansion. The selected route of the railroad determined the future of many coastal town sites, including Carlsbad. The original town of Carlsbad was located outside of Rancho Agua Hedionda on federal land along the coast south of Buena Vista Lagoon. The town began as a station (which became known as Frazier's Station in 1884) on the new California Southern Railroad. The railroad stood as the town's center in Carlsbad Village, and the town grew several blocks in all directions.

John Frazier arrived in the area in 1883, and dug wells to provide water for steam locomotives. Frazier and several businessmen formed the Carlsbad Land and Mineral Water Company in 1886, which laid out a town site and initiated speculative development. The newly formed town was christened Carlsbad because the mineral water found by Frazier contained the same mineral properties as the famous Spa No. 7 in Karlsbad, Bohemia.

20th Century

Population and economic growth resumed again in the 1910s, spurred by agriculture. In 1914, the South Coast Land Company bought up all the remaining lands of the Carlsbad Land and Mineral Water Company, as well as other adjoining properties. The new company drilled wells to provide water for farming. New settlers arrived and bought farm land, growing winter vegetables, grains, and poultry. During the 1920s Carlsbad became a major avocado and flower bulb production area (The peak years for avocado production were 1947 and 1948, and in 1949, it was estimated that 90 per cent of the nation's freesia bulbs came from Carlsbad's annual production of nearly three million bulbs.). Development and infrastructure expanded to accommodate a growing population, although in the 1920 U.S. Census, Carlsbad residential units were still primarily farms. Also at this time, millions of Mexicans fled north from Mexico to seek refuge during the Mexican Revolution, some of whom settled in Carlsbad. These immigrants provided additional farm and railroad labor to the area. They built small simple houses with no electricity or indoor plumbing and later sold the homes to other incoming immigrants. This development provided the foundation for the first neighborhood in Carlsbad, which today is called the Barrio. By 1930, areas near the historic core were divided and subdivided to make room for the newly developing suburban enclaves.

Like the rest of the country, Carlsbad felt the effects of the Great Depression in the 1930s, during which numerous businesses failed and many middle and lower-class residents left the area. After WWII, however, suburban development began to spread throughout Southern California. After a vote about whether to join Oceanside or incorporate, Carlsbad incorporated as a city in 1952. Following a series of annexations beginning in the 1960s, including La Costa in 1972, Carlsbad has grown gradually in area and population.

Marja Acres

The Marja Acres property was originally included in the portion of Rancho Agua Hedionda, north of Agua Hedionda Creek and south of El Camino Real, which was claimed by Frances “Jane” Kelly Pritchard in 1896. Sometime between 1910 and 1936, Jane Kelly sold her portion to the William G. Kerckhoff Company. In 1936 and 1942, Jane’s brother, William Kelly, purchased portions of the current project area back from the Kerckhoff Company. William Kelly sold the currently commercial portion of the project area to his son, Horace Kelly, in 1945. William Kelly passed away in 1950, and in 1953, his widow sold the remainder of the land to their son, Horace Kelly. That same year, Horace Kelly constructed an approximately 1,000-square-foot, single family residence with approximately four chicken houses on the knoll south of El Camino Real. Horace Kelly and his wife sold the land, which contained only the residence and chicken houses, to Jay and Maryon Hoffman in 1955. Having newly arrived in Carlsbad from Nebraska, the Hoffmans named the ranch Marja Acres after their daughter Marja. The couple utilized the existing chicken houses to raise chickens for egg production, adding several more houses and an egg processing room in the 1950s. Marja Acres supplied eggs to market chains and military commissaries in both Southern California and Arizona.

In 1961, the Hoffmans built an egg processing plant down the hill from their home, roadside to El Camino Real. The Hoffmans sold the egg business in 1970; however, they still retained ownership of the commercial building. Maryon Hoffman ran a mid-sized market in a portion of the building until around 1980, while the rest of the building’s retail space was rented out to various businesses. Jay Hoffman passed away in November 2011 and Maryon followed in July 2015. Marja Hoffman Selna, for whom the ranch was named, was granted ownership of the property following her mother’s death as a trustee of the Michael W. Selna and Marja Dawn Selna Family Trust, the Hoffman Legacy Trust, and manager of Marja Acres, LLC.

Records Search

As reported in the *Cultural Resources Study for the Marja Acres Project* (Appendix D of this EIR), a search of records on file at the South Coastal Information Center (SCIC), located at San Diego State University, was conducted with a 1-mile radius of the project area. The SCIC reported no previously recorded archaeological sites are recorded within the project boundaries; however, 47 cultural resource locations have been recorded within a 1-mile radius of the project area. These sites include 13 prehistoric marine shell and lithic scatters, 9 prehistoric marine shell scatters, 7 prehistoric habitation sites, 3 prehistoric lithic scatters, 3 prehistoric temporary camps, 2 prehistoric shell midden sites with associated artifacts, 1 Late Prehistoric camp, 1 prehistoric lithic scatter with bedrock milling features, 1 prehistoric highland camp, 1 prehistoric ceramic and shell scatter, 1 prehistoric artifact scatter, 1 prehistoric shell midden, 1 historic school house, 1 historic farm house, 1 historic farm complex, and 1 historic single-family residence. The majority of these sites are related to prehistoric resource extraction behavior and are oriented along Agua Hedionda Lagoon and Agua Hedionda Creek. No historic addresses have been recorded within 1 mile of the project area.

According to the records search, there have been 78 cultural resource studies conducted within a 1-mile radius of the project area. One of the recorded studies covered the entire project area and four of the recorded studies overlapped portions of the project area. No cultural resources were identified within the project area as a result of any of these studies.

Pedestrian Survey

A pedestrian survey was conducted on the project site on May 12, 2016. The field methodology employed included walking evenly spaced survey transects set approximately 10 meters apart and oriented east to west across the property, while visually inspecting the ground surface. All potentially sensitive areas where cultural resources might be located were closely inspected. Nearly 70 percent of the ground was visible, while the remaining 30 percent was covered by a paved road on the west side of the project area, various modern storage structures surrounding an area used as a plant nursery, a business parking lot associated with 4901 El Camino Real, and patches of grassland and introduced trees throughout the property. A prehistoric site (MA-Temp-1) and two potentially historic structures (commercial structure and one single family residence) were identified within the project site during the survey.

Summary of Survey Results and Testing Results

Historic Structures

As described above, the pedestrian survey of the project site resulted in the discovery of two potentially historic structures (Building #1 [the Hoffman Residence] and Building #2 [4901 El Camino Real]) (Figure 5.5-1). Research was conducted for the structures on the property, which indicated that Building #1 was constructed circa 1951 and Building #2 was constructed circa 1961. Both structures meet the minimum age threshold to be considered historic, and therefore, individual historic structure evaluations were conducted for both structures. The following summarizes the significance evaluation of these two structures.

Building #1 – The Hoffman Residence

Building #1 is a single-story, 2,074-square-foot, single-family residence. The structure was originally built in 1951 as an approximately 1,024-square-foot, standard wood-framed, concrete foundation residence with wooden floor joists and board and batten siding. The original roof was recorded as being cut up, which included gabled, hipped, and shed portions, all with a medium pitch. Original windows were both double-hung and casement. Also associated with the residence were chicken houses, located on the mesa to the east of the home.

Although the single-family residence was constructed in 1951, it has undergone several additions over the years. The Hoffmans constructed additional chicken-related structures, including chicken houses and a processing room, at the egg ranch complex in 1956 and 1957. The first addition was completed in 1961 (Figure 5.5-1). This addition added the enclosed screen porch to the northeast façade of the structure and a wing to the southeast portion. Another addition, completed in 1964, included the incorporation of 806 square feet to the northwest corner of the structure. Between 1977 and 1980, another addition was added to the southwest portion of the structure (Figure 5.5-1), which increased the square footage by an additional 450 square feet. This final addition brought the total square footage of the home to approximately 2,524 square feet. By 1980, the structures associated with the egg ranch complex had been removed.

The current roof of the structure may be described as multiplaned, generally flat, with a minimal pitch. The roof of the enclosed screen porch consists of a minimally pitched flat roof covered in corrugated metal. The current entrance to the home is located on the western portion of the north façade. Windows surrounding the nine-paned, half-light entry door consist of double-hung, wood-framed windows of various sizes. However, windows on the original portion of the structure are wood-framed and casement-style. The original entrance to the home was located on the northeast façade, which is now

covered by the enclosed porch. Another brick walkway from the circular driveway forms a Y, with each path leading to an entrance to the home. The west façade of the 1964 addition exhibits three large, fixed-pane windows with wood trim. A polygonal deck extends off the south façade of the 196 addition, which is accessed through an aluminum sliding glass door on the west façade of the 1977 to 1980 addition. The south façade of the structure primarily consists of the 1977 to 1980 addition. Windows on the addition primarily consist of high quality aluminum-framed casement and fixed-pane windows. A bay-like projection is present on the western portion of the south façade of the addition, which has the same wide eave, overhanging roof as the rest of the addition. The addition can be differentiated from the original portion of the structure to the east because of the change in roof plane elevation.

The 1961 addition is located southeast of the original portion of the structure. Again, the addition can be differentiated from the original structure by the change in roofline elevation. This is especially noticeable when the addition is viewed from the structure's east façade. From this location, the roofline of the addition clearly extends above and appears to overlap the roofline of the original structure. The small walk-up deck and aluminum-framed sliding glass entry door can also be seen on the east façade of the 1961 addition. Although the roofline appears to be fluid with the rest of the original portion of the structure, the east exterior wall appears to have been replaced or added when the enclosed porch was added. In addition, windows on the east façade consist of aluminum-framed slider windows that do not match the original casement and double-hung windows recorded on the assessor's building record. When viewed from the north, the original exterior of the north façade can be seen beneath the enclosed porch, including the original entry door and double-hung windows.

Figure 5.5-1. Structure Location Map



Source: Brian F. Smith and Associates 2016 (Appendix D of this EIR)

Resource Importance

Building #1 has been determined to be not significant because of the extensive modifications and a lack of association with important individuals or events. Although the structure was built by Jay and Marjorie Hoffman, the Hoffmans are not considered historically important individuals. Because of the extensive alterations made to the structure, the building no longer retains integrity of design, materials, workmanship, setting, or association. Therefore, Building #1 is not considered a significant resource as defined by CEQA or City of Carlsbad Guidelines and is not eligible for listing on the California Register of Historical Resources (CRHR).

Building #2 – Commercial Structure at 4901 El Camino Real

Building #2 is a large commercial structure that measures 203 by 75 feet, which was originally associated with the Hoffman egg ranch. As the egg ranch grew, the Hoffmans built an egg grading and packing plant on the northern portion of the property, roadside to El Camino Real. Originally, it was built as a wood-framed structure with a concrete floor on a reinforced concrete foundation. Exterior walls of the original structure were board and batten, much like the Hoffman Residence. Original windows were metal and wood-framed. At the time of construction, the building exhibited a side-gabled, composite shingle roof with a front-gabled roof over the main entryway, both of which are still present. Building records indicate this original egg packing plant portion of the structure was constructed in 1961. At the time of construction, the building measured only 100 by 62 feet. This is much smaller than the current 203- by 75-foot structure, which has expanded over the years.

The first addition made to the egg plant occurred in 1964, when the west wing was added. This addition measures 44 by 62 feet and is currently used as a liquor store. A covered porch was added at the entrance to the west wing between 1968 and 1975.

Only 1 year later, a warehouse was added to the east side, and a loading dock was added to the rear of the structure. The warehouse addition incorporated an additional 3,150 feet to the total building square footage. Sans the loading dock, the warehouse measures 45 by 70 feet, and the loading dock alone measures 8 by 100 feet. An exact date of construction was not given for the mezzanine addition; however, it was not assessed in 1975 but was in 1977, indicating it was likely constructed between 1975 and 1977. The mezzanine addition increased the square footage of a newly constructed second floor space and added dormer windows on the south façade of the second story.

Partitions were added to the building interior in 1983, which served to separate the different additions into separate retail spaces. A patio dining area was added to the south and east of the warehouse addition in 1984, and the gazebo, which currently serves as a flower shop, was constructed in 1986.

Resource Importance

Building #2 has been determined to be not significant because of the extensive modifications and a lack of association with important individuals or events. Although the structure was built by Jay and Marjorie Hoffman, the Hoffmans are not considered important individuals. Because of the extensive alterations made to the structure, the building no longer retains integrity of design, materials, workmanship, setting, or association. Therefore, Building #2 is not considered a significant resource as defined by CEQA or City of Carlsbad Guidelines and is not eligible for listing on the CRHR.

Prehistoric Site (MA-Temp-1)

Site MA-Temp-1 is a prehistoric shell scatter situated on a terrace overlooking Agua Hedionda Lagoon to the southwest. Like many of the prehistoric sites in the area, the pattern of prehistoric subsistence

around coastal lagoons in San Diego County is characterized by small food collecting and processing locations in areas where people could rely upon marine food resources to supplement terrestrial food sources. The site may have been used by Late Prehistoric inhabitants of the area; however, because of a lack of artifacts representative of the Late Prehistoric Kumeyaay or Luiseño cultures, no determination regarding which culture may have occupied the site could be made. The results of the site testing program are provided below.

Surface Collection

The entire surface of MA-Temp-1 was inspected for cultural materials. Surface recovery consisted of only 19.12 grams of marine shell (*Chione* sp. and *Tivela* sp.).

Subsurface Collection

To assess the potential for significant deposits within MA-Temp-1, 5 shovel test pits (STP) were excavated. The purpose of the testing program was to identify any subsurface cultural deposits associated with the surface shell scatter. The five STPs were oriented in a radial pattern at 10-meter intervals matching the surface expression at the site to determine the presence and extent of any subsurface expression. All of the shovel tests were excavated in decimeter levels to at least 30 centimeters. Only one of the five STPs provided a positive result, consisting of 0.7 gram of marine shell.

The prehistoric analysis for MA-Temp-1 is based on both surface and subsurface recovery. The small quantity of marine shell indicates that prehistoric occupation within the project area likely consisted of an infrequently occupied seasonal camp focused on lagoon-based food resources. The lack of milling tools normally used for seed grinding, as well as any lithic material, indicates the site was likely used solely for shellfish collection and/or processing. This is a pattern common to Archaic coastal sites, where the abundance of available shellfish and accessible seeds from the coastal sage scrub plant community required only a minimum of tools to facilitate food preparation. The types of prehistoric lithic artifacts present and the lack of tools indicate only minor lithic production took place on site. The recovered materials illustrate the presence of only marine shell, which suggests that the prehistoric use of the site was transitory and reflects a brief period of use focused solely upon expedient food collecting and consumption.

Resource Importance

The testing of site MA-Temp-1 has not provided any additional information about prehistoric occupation of the Agua Hedionda area. The presence of only two shell species, *Chione* sp. and *Tivela* sp., indicates the site was likely used for the sole purpose of collecting and/or processing of these specific shell species, both of which are common in lagoon environments. Because of the lack of artifacts or a subsurface deposit, Site MA-Temp-1 does not qualify as a significant archaeological resource as defined by CEQA and City of Carlsbad Guidelines.

Tribal Cultural Resources

AB 52 was passed in 2014 and took effect July 1, 2015. It established a new category of environmental resources that must be considered under CEQA called tribal cultural resources (PRC 21074) and establishes a process for consulting with Native American tribes and groups regarding those resources. AB 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project and that has formally requested notification on projects from the lead agency. In accordance with AB 52, the city

provided notification of the proposed project to the Native American tribes that have formally requested notification from the city. The city's consultation process with Native American tribes under AB 52 is discussed below under Impact 5.5-5, Tribal Cultural Resources.

The cultural resources field work included consultation with Native American tribal representatives. Although no Traditional Cultural Properties or areas of religious or sacred importance were revealed within the project boundaries, the San Luis Rey Band of Mission Indians has previously identified this general area as having cultural importance and being within their ancestral land.

Paleontological Resources

Paleontology is the science dealing with the remains or traces of prehistoric plants and (nonhuman) animal life. Paleontological resources, also referred to as fossils, encompass the remains or traces of hard and resistant materials, such as bones, teeth, or shells, although plant materials and occasionally less resistant remains (e.g., tissue or feathers) can also be preserved. Fossils are important scientific resources because they can help document the presence of particular groups of organisms, the environments they lived in, and provide a history of environmental and evolutionary change. The formation of fossils typically involves the rapid burial of plant or animal remains and the formation of casts, molds, or impressions in the associated sediment, which subsequently becomes sedimentary rock. As a result of this process, the potential for fossil remains in a given geologic formation can be predicted based on known fossil occurrences from similar (or correlated) geologic formations in other locations.

The city contains several geologic formations that include a sequence of marine and nonmarine sedimentary rock units that record portions of the last 140 million years of earth history. The geologic formations found in the city are primarily the Lusardi Formation of the Cretaceous Age, as well as the Santiago Formation and Del Mar Formation of the Tertiary Age that overlie the Lusardi Formation. The Lusardi Formation consistently produces significant fossils and consists of sandstones and conglomerate deposited in a shallow sea that covered the region approximately 74 million years ago. The Santiago Formation and Del Mar Formation make up the sandstones and siltstones of the La Jolla Group, which is approximately 45 million years old and has produced a large number of vertebrate and invertebrate fossils. The La Jolla Group has a high potential for containing significant fossils. Loma Linda terrace deposits of the Quaternary Age have the potential to contain fossiliferous rock from Pleistocene terrace deposits of not more than 2 million years in age. These fossils are also potentially significant (City of Carlsbad 2015a).

5.5.2 Regulatory Setting

State

California Register of Historical Resources

The Office of Historic Preservation (OHP) administers the CRHR, which was established in 1992 through amendments to the PRC, as an authoritative guide to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and indicate what properties are to be protected from substantial adverse change. CRHR includes resources that have been formally determined eligible for, or listed in, the National Register of Historic Places (NRHP), State Historical Landmark Number 770 or higher, points of historical interest recommended for listing by the State Historical Resources Commission (SHRC) for listing, resources nominated for listing and determined eligible in accordance with criteria and procedures adopted by the SHRC, and resources

and districts designated as city or county landmarks when the designation criteria are consistent with CRHR criteria.

CRHR establishes the evaluative criteria used by CEQA in defining a historic resource. A historic resource is significant if it meets one or more of the criteria for listing in the CRHR. Resources are eligible for listing in the CRHR if they:

1. Are associated with events that have made a significant contribution to the broad patterns of local or regional history and cultural heritage of California or the U.S.
2. Are associated with the lives of persons important to the nation or to California's past
3. Embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
4. Have yielded, or may be likely to yield, information important in prehistory or history of the state or nation

California Environmental Quality Act

Historical and Archaeological Resources

CEQA requires lead agencies to carefully consider the potential effects of a project on historical and unique archaeological resources. A "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript, which is historically or archaeologically significant (PRC Section 5020.1 (j)).

Section 15064.5 of the CEQA Guidelines specifies criteria for determining the significance of impacts on archaeological and historical resources. Section 15064.5 defines a "historical resource" as:

1. A resource listed in, or determined to be eligible by the SHRC, for listing in the CRHR (PRC Section Code 5024.1, Title 14 California Code of Regulations [CCR], Section 4850 et seq.).
2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in a historical resource survey meeting the requirements Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (14 CCR 4852) including the following:
 - a. Is associated with events that have made a contribution to the broad patterns of California history and cultural heritage
 - b. Is associated with the lives of persons important in our past
 - c. Embodies the distinctive characteristics of a type, period, region or method construction, or represents the work of an important individual or possesses high artistic values
 - d. Has yielded, or may be likely to yield, important information in prehistory or history



4. The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a cultural resource does not meet the definition of a “historic resource” under CEQA Guidelines Section 15164.5, it must be reviewed under PRC Section 21083.2(g) that defines the significance of an archaeological site in terms of uniqueness. A unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

1. Contains information needed to answer important scientific questions and there is a demonstrable public interest in that information
2. Has a special and particular quality, such as being the oldest of its type or the best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

A nonunique archaeological resource indicates an archaeological artifact, object, or site that does not meet the previously listed criteria. Impacts on nonunique archaeological resources receive no further consideration under CEQA, other than the recording of its existence by the lead agency if it so elects.

Human Remains

Human remains require special handling and must be treated with dignity. Procedures are provided in Section 15064.5(e) of the CEQA Guidelines, Section 5097.98 of the PRC and Section 87.429 of the county’s grading ordinance. In the event of the discovery of human remains and/or funerary items, the following procedures, as outlined by the above statutes, regulations, and ordinances, shall be followed:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
 - a. The county coroner must be contacted to determine that no investigation of the cause of death is required
 - b. If the coroner determines that the remains are Native American:
 - i. The coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours.
 - ii. The NAHC shall identify the person or persons it believes to be the most likely descendant (MLD) from the deceased Native American.
 - iii. 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.

2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
 - a. The NAHC is unable to identify an MLD or the MLD failed to make a recommendation within 24 hours after being notified by the commission.
 - b. The descendent identified fails to make a recommendation.
 - c. The landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

Similarly, PRC Section 5097.98 states that whenever the NAHC receives notification of Native American human remains from a county coroner, the NAHC shall immediately notify the MLD. The MLD may, with permission from the owner of the land in which the human remains were found, inspect the site and recommend to the owner or the responsible party conducting the excavation work a means for treating and/or disposing of the human remains and any associated grave goods. The MLD is required to complete their site inspection and make their recommendation within 48 hours of NAHC notification.

Tribal Cultural Resources

CEQA also requires that the lead agency consider impacts to Tribal Cultural Resources. A Tribal Cultural Resource that meets the statutory definition does not have to be further evaluated for significance. Section 21074(a) of the PRC defines Tribal Cultural Resources for the purpose of CEQA as:

Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

1. Included or determined to be eligible for inclusion in the CRHR; and/or
2. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
3. 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Recognizing that California Native American tribes are experts in their Tribal Cultural Resources and heritage, AB 52 amended CEQA to require lead agencies initiate consultation with tribes at the commencement of the CEQA process to identify Tribal Cultural Resources. Furthermore, because a substantial adverse change to a Tribal Cultural Resource is considered a significant impact on the environment under CEQA, consultation is required to develop appropriate avoidance, impact minimization, and mitigation measures.

The process by which consultation with tribes occurs in CEQA was established with the passage of AB 52. Effective July 1, 2015, a lead agency must provide notice to any California Native American tribe that has requested notice of projects proposed by the lead agency; and for any tribe that



responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include the presence or absence of Tribal Cultural Resources, the potential for the project to cause a substantial adverse change to Tribal Cultural Resources, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

California Health and Safety Code

California Health and Safety Code Section 7050.5 regulates the procedure in the event of human remains discovery. Pursuant to PRC Section 5097.98, in the event of human remains discovery, no further disturbance is allowed until the county coroner has made the necessary findings regarding the origin and disposition of the remains. If the remains are determined to be Native American, the coroner is required to contact the NAHC. The NAHC is responsible for contacting the MLD, who will consult with the local agency regarding proper treatment and distribution of the remains. According to Section 15064.5 of the CEQA Guidelines, all human remains are a significant resource.

Local

City of Carlsbad Municipal Code – Historic Preservation (Title 22)

Chapter 22.06 of the CMC states that a historic resource may be considered and approved by City Council for inclusion in the city's historic resources inventory based on one or more of the following:

- It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering or architectural history
- It is identified with persons or events significant in local, state or national history
- It embodies distinctive characteristics of a style, type, period or method of construction, is a valuable example of the use of indigenous materials or craftsmanship or is representative of a notable work of an acclaimed builder, designer or architect
- It is an archaeological, paleontological, botanical, geological, topographical, ecological, or geographical site which has the potential of yielding information of scientific value
- It is a geographically definable area with a concentration of buildings, structures, improvements, or objects linked historically through location, design, setting, materials, workmanship, feeling and/or association, in which the collective value of the improvements may be greater than the value of each individual improvement

Compliance with Title 22 of the CMC is voluntary per Chapter 22.02. Moreover, although Chapter 22.06 of the CMC allows for a historic resources inventory, the city currently does not maintain an adopted inventory. In 1991, the City Council adopted a document as its historic resources inventory; however, this was deleted by subsequent council action in 1993.

Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines

In 1990, the city developed its first set of guidelines, *Carlsbad Cultural Resource Guidelines*, for the treatment of cultural resources that fall within the limits of the city. Since 1990, a number of changes have occurred in the regulatory context within which the city operates. These changes occurred at various levels of jurisdiction, including at the city, state, and national levels and in the thresholds and expectations for best professional practices in cultural resources management. Changes have also

occurred in terms of the level of involvement by stakeholders in cultural resources, particularly Native American tribes, as well as historical societies and the general public. In 2017, the city updated its guidelines and renamed it the *Carlsbad Tribal, Cultural, and Paleontological Resource Guidelines*. The updated guidelines incorporate the addition of new procedures (i.e., AB 52 consultation) to address the additional requirements that emerged since the first set of guidelines were adopted in 1990.

Carlsbad General Plan – Arts, History, Culture, and Education Element

The Carlsbad General Plan (2015a) affords consideration for the preservation of cultural resources. The Arts, History, Culture, and Education Element of the *Carlsbad General Plan* contains goals and policies to protect and preserve the city's cultural resources.

- Goal 7-G.1.** Recognize, protect, preserve, and enhance the city's diverse heritage.
- Policy 7-P.6.** Ensure compliance with the City of Carlsbad Cultural Resource Guidelines to avoid or substantially reduce impacts to historic structures listed or eligible to be listed in the NRHR or the CRHR.
- Policy 7-P.7.** Implement the City of Carlsbad Cultural Resource Guidelines to avoid or substantially reduce impacts to archaeological and paleontological resources.
- Policy 7-P.8.** During construction of specific development projects, require monitoring of grading, ground-disturbing, and other major earth-moving activities in previously undisturbed areas or in areas with known archaeological or paleontological resources by a qualified professional, as well as a tribal monitor during activities in areas with cultural resources of interest to local Native American tribes. Both the qualified professional and tribal monitor shall observe grading, ground-disturbing, and other earth-moving activities.
- Policy 7-P.9.** Ensure that treatment of any cultural resources discovered during site grading complies with the City of Carlsbad Cultural Resource Guidelines. Determination of the significance of the cultural resource(s) and development and implementation of any data recovery program shall be conducted in consultation with interested Native American tribes. All Native American human remains and associated grave goods shall be returned to their MLD and repatriated. The final disposition of artifacts not directly associated with Native American graves shall be negotiated during consultation with interested tribes; if the artifact is not accepted by Native American tribes, it shall be offered to an institution staffed by qualified professionals, as may be determined by the City Planner. Artifacts include material recovered from all phases of work, including the initial survey, testing, indexing, data recovery, and monitoring.
- Policy 7-P.10.** Require consultation with the appropriate organizations and individuals (e.g., Information Centers of the California Historical Resources Information Systems, the NAHC, and Native American groups and individuals) to minimize potential impacts to cultural resources that may occur as a result of a proposed project.

5.5.3 Project Impacts

Thresholds of Significance

California Environmental Quality Act

As defined in Appendix G of the CEQA Guidelines, project impacts on cultural resources would be considered significant if the project was determined to:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature
- Disturb any human remains, including those interred outside of formal cemeteries
- Cause a substantial adverse change in the significance of a Tribal cultural resource as defined in PRC Section 21074

City of Carlsbad Historic Preservation – CMC Chapter 22.06

A cultural resource is considered significant when it:

- Exemplifies or reflects special elements of the city's cultural social, economic, political, aesthetic, engineering, or architectural history
- Is identified with persons or events significant in local, state, or national history
- Embodies distinctive characteristics of a style, type, period, or method of construction, is a valuable example of the use of indigenous materials or craftsmanship, or is representative of a notable work of an acclaimed builder, designer, or architect
- Is an archaeological, paleontological, botanical, geological, topographical, ecological, or geographical site which has the potential of yielding information of scientific value
- Is a geographically definable area possessing concentration of sites, buildings, structures, improvements, or objects linked historically through location, design, setting, materials, workmanship, feeling, and/or association, in which the collective value of the improvements may be greater than the value of each individual improvement

Impact Analysis

Impact 5.5-1 Historic Resources

Would the proposed project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines?

As previously discussed above, a prehistoric site (MA-Temp-1) and two historic structures (Buildings #1 and #2) were identified within the project site during the survey. Because of the extensive modifications and a lack of association with important individuals or events, Buildings #1 and #2 are not considered significant resources as defined by CEQA or City of Carlsbad Guidelines. Because of

the lack of artifacts or a subsurface deposit, Site MA-Temp-1 does not qualify as a significant resource as defined by CEQA and City of Carlsbad Guidelines. Based on these considerations, the proposed project would have no impact on historical resources.

Impact 5.5-2 Archaeological Resources

Would the proposed project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines?

The SCIC reported that no previously recorded archaeological sites are recorded within the project boundaries; however, 47 cultural resource locations have been recorded within a 1-mile radius of the project area. Because of the presence of significant archaeological sites located within 500 feet of the project site boundaries, there is the potential that previously undiscovered archaeological resources could be encountered during grading activities. This is considered a significant impact. It is recommended that a qualified archaeological monitor and a Native American monitor be present during all ground-disturbing construction activities within the project area. Implementation of Mitigation Measure CR-1 would reduce this impact to a less than significant level.

Impact 5.5-3 Paleontological Resources

Would the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Paleontological resources are typically impacted when earthwork activities cut into geological deposits (formations) within which fossils are buried. The impact is in the form of the physical destruction of fossil remains. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. Such an impact is significant, and, under CEQA Guidelines, requires mitigation.

Implementation of the proposed project would result in a potentially significant paleontological resource impact in association with grading/excavation in previously undisturbed areas of the Santiago Formation (high sensitivity). Therefore, development of the proposed project may directly or indirectly negatively impact or destroy a yet unidentified paleontological resource without proper mitigation. Implementation of Mitigation Measures CR-2 through CR-7 would reduce this impact to a level less than significant.

Impact 5.5-4 Human Remains

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

Potential impacts on subsurface human remains resulting from construction of the proposed project may occur during excavation and grading. If human remains are encountered, all work must stop in the immediate vicinity of the discovered remains and the county coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed. If the remains are deemed to be Native American and prehistoric, the NAHC must be contacted by the coroner so that a MLD can be designated. The potential to impact human remains during grading activities is considered a significant impact. Implementation of Mitigation Measure CR-8 would reduce this impact to a level less than significant.



Impact 5.5-5 Tribal Cultural Resources

Would the proposed project cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in PRC Section 21074?

The city sent an invitation to consult under AB 52 (PRC 21080.3.1) on September 12, 2018, to all California Native American tribes who had requested to be informed by the lead agency through formal notification of proposed projects in traditionally- and culturally-affiliated geographic areas.

The San Luis Rey Band of Mission Indians (SLR) and Rincon Band of Luiseño Indians (RBL) responded verbally and in writing, respectively, within 30 days of notification and requested consultation. The other two tribes, Torres Martinez Desert Cahuilla Indians and Mesa Grande Band of Mission Indians, did not respond. Although SLR did not formally request consultation in writing, the city decided to treat the verbal request as formal. The city held a consultation meeting with SLR on January 10, 2019, and with RBL on January 31, 2019.

Based on the tribal consultations and the city's analysis of substantial evidence pursuant to California Register of Historical Resources criteria while considering potential significance to the tribe, the city has determined that, while there is not a Tribal Cultural Resource (TCR) present within the project site, there are TCRs within a ½-mile radius of the project area. Therefore, there is a reasonable possibility that TCRs may be encountered during the project's ground-disturbing activities. If TCRs are encountered, the proposed project may result in potentially significant impacts on TCRs. Input from the tribal consultation was included within the project mitigation measures. Implementation of Mitigation Measures CR-1 and CR-8 would reduce potential impacts on TCRs to a less than significant level.

5.5.4 Level of Significance before Mitigation

There are no known cultural resources located on the project site that have been recommended as historical resources under CEQA. However, the presence of previously recorded archaeological resources in the area suggests a potential for the occurrence of previously undiscovered cultural resources on the project site. This is considered a potentially significant impact.

Implementation of the proposed project has the potential to impact a significant paleontological resource during grading/excavation in previously undisturbed areas of the Santiago Formation (high sensitivity). This is considered a potentially significant impact.

Implementation of the proposed project has the potential to inadvertently impact undiscovered human remains during excavation and grading activities. This is considered a potentially significant impact.

5.5.5 Environmental Mitigation Measures

The following mitigation measures shall be implemented by the applicant to minimize impacts on unknown buried cultural resources:

CR-1 The following shall be implemented to minimize impacts on subsurface cultural resources:

- Prior to the commencement of ground-disturbing activities, the project developer shall contract with a qualified professional archaeologist and enter into a pre-excavation agreement, otherwise known as a Cultural Resources Treatment and Tribal Monitoring Agreement, with the San Luis Rey Band of Mission Indians or other Luiseño tribe, for monitoring during ground-disturbing activities. The agreement will contain provisions to address the proper treatment of any tribal cultural resources and/or Luiseño Native

American human remains inadvertently discovered during the course of the project. The agreement will outline the roles and powers of the Luiseño Native American monitors and the archaeologist and shall include the provisions below. In some cases, the language below may be modified in consultation with the tribe if special conditions warrant. A copy of said archaeological contract and Tribal Monitoring agreement shall be provided to the City of Carlsbad prior to the issuance of a grading permit.

- A Luiseño Native American monitor shall be present during all ground-disturbing activities. Ground-disturbing activities may include, but are not limited to, archaeological studies, geotechnical investigations, clearing, grubbing, trenching, excavation, preparation for utilities and other infrastructure, and grading activities.
- Any and all uncovered artifacts of Luiseño Native American cultural importance shall be repatriated to the Native American tribes, San Luis Rey Band of Mission Indians and Rincon Band of Luiseño Indians, that consulted with the city per AB 52 (“consulting tribes”) for reburial within an appropriate protected location determined in consultation with the tribes and protected by open space or easement, etc., where the cultural items will not be disturbed in the future, and shall not be curated unless ordered to do so by a federal agency or a court of competent jurisdiction.
- The archaeologist and Luiseño Native American monitor shall be present at the project’s on-site preconstruction meeting to consult with grading and excavation contractors concerning excavation schedules and safety issues, as well as consult with the principal archaeologist concerning the proposed archaeologist techniques and/or strategies for the project.
- Luiseño Native American monitors and archaeological monitors shall have joint authority to temporarily divert and/or halt construction activities. If tribal cultural resources are discovered during construction, all earth-moving activity within and 100 feet around the immediate discovery area must be diverted until the Luiseño Native American monitor and the archaeologist can assess the nature and significance of the find.
- If a significant tribal cultural resource(s) and/or unique archaeological resource(s) are discovered during ground-disturbing activities for the project, the consulting tribes shall be notified and consulted regarding the respectful and dignified treatment of those resources. Pursuant to California PRC Section 21083.2(b) avoidance is the preferred method of preservation for archaeological and tribal cultural resources. If, however, the Applicant is able to demonstrate that avoidance of a significant and/or unique cultural resource is infeasible and a data recovery plan is authorized by the City of Carlsbad as the lead agency, the consulting tribes shall be consulted regarding the drafting and finalization of any such recovery plan.
- When tribal cultural resources are discovered during the project, if the archaeologist collects such resources, a Luiseño Native American monitor must be present during any testing or cataloging of those resources. All collections made by archaeologists will be collected and treated following the guidelines and regulations set forth under 36 CFR 79, federal regulations for collection of cultural materials. If the archaeologist does not collect the tribal cultural resources that are unearthed during the ground-disturbing activities, the Luiseño Native American monitor may, in their discretion, collect said



resources and repatriate them to the consulting tribes for dignified and respectful treatment in accordance with their cultural and spiritual traditions.

- If suspected Native American human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the San Diego County Medical Examiner has made the necessary findings as to origin. Further, pursuant to California PRC Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. Suspected Native American remains shall be examined in the field and kept in a secure location at the site. A Luiseño Native American monitor shall be present during the examination of the remains. If the San Diego County Medical Examiner determines the remains to be Native American, the Medical Examiner must contact the NAHC within 24 hours. The NAHC must then immediately notify the MLD upon receiving notification of the discovery. The MLD shall then make recommendations within 48 hours of being granted access to the site and engage in consultation concerning treatment of remains as provided in PRC 5097.98.
- In the event that fill material is imported into the project area, the fill shall be clean of tribal cultural resources and documented as such. Commercial sources of fill material are already permitted as appropriate and will be culturally sterile. If fill material is to be utilized and/or exported from areas within the project site, then that fill material shall be analyzed and confirmed by an archaeologist and Luiseño Native American monitor that such fill material does not contain tribal cultural resources.
- No testing, invasive or noninvasive, shall be permitted on any recovered tribal cultural resources without the written permission of the consulting tribes.
- Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis, and conclusions of the monitoring program shall be submitted by the archaeologist, along with the Luiseño Native American monitor's notes and comments, to the City of Carlsbad for approval. Said report shall be subject to confidentiality as an exception to the Public Records Act and will not be available for public distribution.

The following mitigation measures shall be implemented by the proposed project to minimize impacts on paleontological resources:

CR-2 Prior to the issuance of a grading permit, the project applicant shall enter into a contract with a qualified Principal Paleontologist to monitor the site, and provide a copy of the contract to the City of Carlsbad. The paleontologist shall be present at the project's on-site preconstruction meeting to consult with grading and excavation contractors concerning excavation schedules, safety issues and procedures, and shall monitor all grading that includes initial cutting into any area of the project site, as the project site sits on paleontologically-sensitive Santiago Formation deposit. If any paleontological resources are identified during these activities, the paleontologist shall temporarily divert construction until the significance of the resources is ascertained.

CR-3 Paleontological monitoring shall occur only for those undisturbed sediments wherein fossil plant or animal remains are found with no associated evidence of human activity or any archaeological context.

- CR-4** Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and remove samples of sediments, which are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially fossiliferous units described above are not present or if the fossiliferous units present are determined by a qualified paleontological monitor to have low potential to contain fossil resources.
- CR-5** All recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates.
- CR-6** Specimens shall be identified and curated into an established, accredited, professional museum repository with permanent retrievable storage such as the San Diego Natural History Museum. The paleontologist shall have a written repository agreement in hand prior to the issuance of a grading permit and initiation of mitigation activities.
- CR-7** Prior to the release of grading bonds, the paleontologist shall complete a report describing the methods and results of the paleontological monitoring and data recovery program, and file a copy of the report at the San Diego Natural History Museum.

The following mitigation measure shall be implemented by the proposed project to minimize potential impacts on human remains.

- CR-8** If human remains or remains that are potentially human are found during any ground disturbance associated with project development activities, including the archaeological test or data recovery programs, the project proponent and its agents must comply with PRC 5097.98 and California Health and Safety Code 7050.5.
- a) The archaeologist in consultation with the Native American monitor(s) shall ensure reasonable measures are taken so that the discovery location will be protected and secured from further disturbance.
 - b) The archaeological project manager shall notify the County Medical Examiner.
 - c) If the remains are determined by the medical examiner or an authorized representative to be Native American, the medical examiner will notify the NAHC.
 - d) The NAHC will designate and contact the MLD.
 - e) The property owner will provide the MLD with access to the discovery location, which will have been protected from damage.
 - f) The MLD will make a recommendation for treatment of the remains within 48 hours of being granted access to the property. The descendant's preferences for treatment may include the following:
 - i) The nondestructive removal and analysis of human remains and items associated with Native American human remains.
 - ii) Preservation of Native American human remains and associated items in place.
 - iii) Relinquishment of Native American human remains and associated items to the descendants for treatment.

- iv) Other culturally appropriate treatment.
- g) If the MLD does not make a recommendation within 48 hours, or if the recommendations are not acceptable to the property owner following extended discussions and mediation by the NAHC, the property owner will reinter the remains and burial items with appropriate dignity on the property, in a location not subject to further subsurface disturbance. The location of reinterment will be protected by at least one of the three following measures:
 - i) Record the location with the NAHC or the SCIC.
 - ii) Utilize an open space or conservation zoning designation or easement.
 - iii) Record a reinternment document with San Diego County.
- h) If multiple human remains are found, extended discussions will be held with the MLD. If agreement on the treatment of these remains is not reached, they will be reinterred in compliance with PRC 5097.98(e).
- i) If Native American remains are discovered during ground disturbance and are positively identified as such by a representative of the County Medical Examiner, they will be kept in situ, or in a secure location in close proximity to where they were found, and free from disturbance until a final decision as to treatment and disposition has been made. Any analysis of the remains will occur only on site in the presence of a Luiseño Native American monitor.

5.5.6 Level of Significance after Mitigation

Implementation of Mitigation Measure CR-1 would reduce the potential impact associated with undiscovered cultural resources to a level less than significant. Mitigation Measure CR-1 would require provisions for the inadvertent discovery of archaeological resources including on-site monitoring during construction activities in native soils. This would ensure that if previously unrecorded resource(s) are uncovered during construction of the project, the resource(s) would be properly evaluated and avoided, resulting in a less than significant impact.

Because of the presence of sediments that may contain fossils, there is the potential that the project would impact significant paleontological resources. This is considered a significant impact. With implementation of construction monitoring, preparation of, and curation of fossils (if found), the impact would be reduced to a level less than significant. With implementation of Mitigation Measures CR-2 through CR-7, impacts on undiscovered paleontological resources located on site would be mitigated to a level less than significant.

Mitigation Measure CR-8 provides a protocol that must be followed if human remains are discovered during ground-disturbing work. With the implementation of Mitigation Measure CR-8, the potential impact on undiscovered human remains located on-site would be reduced to a level less than significant.

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5.6 Geology/Soils

This section provides an evaluation of the proposed project's impact in relation to existing geologic and soil conditions within the project site. The following technical studies analyze the potential impacts from the proposed project:

- *Update of the Geotechnical Evaluation of Marja Acres* (GeoSoils, Inc. [GeoSoils] 2018a) (Appendix E1 of this EIR)
- *Addendum to the Geotechnical Evaluation of Marja Acres* (GeoSoils 2018b) (Appendix E2 of this EIR)
- *Geotechnical Evaluation of Marja Acres* (GeoSoils 2016) (Appendix E3 of this EIR)

The technical appendices are included on the attached CD found on the back cover of this EIR.

5.6.1 Existing Conditions

Geology and Subsurface Conditions

The project site is located within the coastal plain physiographic region of the Peninsular Ranges Geomorphic Province of Southern California. This region consists of dissected, mesa-like terraces that transition inland to rolling hills. The encompassing Peninsular Ranges Geomorphic Province is characterized as elongated mountain ranges and valleys that trend northwesterly. This geomorphic province extends from the base of the east-west aligned Santa Monica – San Gabriel Mountains – and continues south into Baja California. The mountain ranges within this province are underlain by basement rocks consisting of pre-Cretaceous metasedimentary rocks, Jurassic metavolcanic rocks, and Cretaceous plutonic (granitic) rocks.

In the Southern California region, deposition occurred during the Cretaceous Period and Cenozoic Era in the continental margin of a forearc basin. Sediments, derived from Cretaceous-age plutonic rocks and Jurassic-age volcanic rocks, were deposited during the Tertiary Period (Eocene-age) into the narrow, steep, coastal plain and continental margin of the basin. These rocks have been uplifted, eroded, and deeply incised. During early Pleistocene time, a broad coastal plain was developed from the deposition of marine terrace deposits. During mid to late Pleistocene time, this plain was uplifted, eroded, and incised. Alluvial deposits have since filled the lower valleys, and young marine sediments are currently being deposited/eroded within coastal and beach areas.

Topographically, the project site consists of a relatively flat lying upper mesa area within the southern portion of the site. Along the northern edge of the mesa, moderate slopes descend northward toward a relatively flat lying “bottom,” or alleviated area, located between the slope and the existing alignment of El Camino Real. Site drainage generally appears to be directed from the mesa onto offsite areas to the west and northward into the bottom area. Runoff within the bottom area appears to ultimately be directed via sheet flow and a small channel offsite to the west. Previous grading operations appear to have occurred within the bottom area, along the southern edge of El Camino Real, and at the easternmost portion of the project site, where existing fill appears to have been placed as part of an existing on-site and adjacent, off-site residential development. Elevations range from approximately 110 feet AMSL on the mesa, down to approximately 46 feet AMSL, within the bottom area.

The project site is underlain with deposits of older Quaternary-age alluvium within the upper, mesa area, and younger, Quaternary-age alluvium overlying Eocene sediments at depth, within the bottom

area. The earth materials observed and/or encountered on the project site generally consist of surficial deposits of undocumented fill, colluvium (topsoil), and alluvium, overlying formational deposits of Quaternary-age older alluvium, and Eocene-age sedimentary bedrock, belonging to the Santiago Formation, which occurs at depth throughout the project site. The various materials observed and/or encountered on the project site are discussed below, from youngest to oldest.

Undocumented Fill

Undocumented fill occurs locally throughout the upper, mesa area of the project site as minor road embankments and in the vicinity of existing telecommunication towers, with a thickness of approximately 4 feet. Within the bottom area of the project site, located between El Camino Real and the base of the ascending, north-facing slope, south of the existing commercial buildings/nurseries, undocumented fill appears to occur as a surficial layer of material ranging in thickness from about 4 to 7 feet. An embankment of existing fill also occurs at the northeastern corner of the project site and appears to be supporting existing offsite residential development. Where encountered in test excavations, undocumented fill varies from sandy clay to clayey sand, typically observed to be light brown to brown, slightly moist to moist, loose (clayey sand) and soft (sandy clay), and porous, with some plastic debris locally.

Colluvium

A relatively thin surficial/near surface layer of colluvium, ranging from approximately 1 to 5 feet in thickness, occurs within slope areas, and across the upper mesa area of the project site. Thicker accumulations generally occur within the lower reaches of swales developed on existing slopes. Where encountered, colluvium consists of brown to dark brown clayey sand and clay, typically observed to be moist and loose (clayey sand), and soft (clay), porous, locally desiccated (clay fraction) with few roots.

Quaternary Alluvium

Quaternary-age deposits of alluvium were observed underlying undocumented fill within the bottom area of the project site. Alluvial deposits were encountered to depths ranging from approximately 20 to 36 feet below existing surface grades and appear to thicken to the west, along the long axis of the bottom area. Alluvium is anticipated to thin toward the base of the existing, north-facing slope that descends toward the bottom area.

Quaternary Older Alluvium

Quaternary-age deposits of older alluvium were generally observed within the upper mesa area of the project site and unconformably overly the older Eocene-deposits of sedimentary bedrock. A relatively flat lying contact between older alluvium and the underlying sedimentary bedrock occurs at an approximate elevation of 88 to 89 AMSL. Based on a topographic high of approximately 110 feet AMSL, the maximum thickness of older alluvium is approximately 21 to 22 feet. Where encountered, these sediments generally consist of interlayered gray brown, brown to light brown silty sands with clay, brown and olive brown clayey sands, and dark brown to olive brown clay. Older alluvium was typically observed to be moist, medium dense (sands), or very stiff (clays), with some carbonate mottling within near surface layers.

Eocene Santiago Formation

Eocene-age sedimentary bedrock, belonging to the Santiago Formation, underlies the entire project site, beneath older alluvium within the upper mesa area and younger alluvium within the bottom area of the project site, and forms the lower slopes below the contact with older alluvium. Where encountered, sedimentary bedrock consists of sandstone and clayey sandstone, typically observed to be slightly moist to moist within slope areas, becoming wet to saturated at depth within the bottom area. A paleosol, with an observed thickness of 2 to 4 feet and consisting of a very dark gray, moist and stiff clay with many gravel size carbonate nodules, appears to be developed within the Santiago Formation at the contact with the overlying alluvium.

Groundwater

Groundwater was encountered in borings located within the bottom area of the project site, primarily as a perched water table within existing alluvium overlying sedimentary bedrock. Depths to groundwater encountered in these alluvial areas ranged from approximately 14 to 17 feet below existing grades. The local groundwater gradient appears to be from east to west toward Agua Hedionda Lagoon.

Surface signs of water wells were not observed on site during the site reconnaissance. In addition, there are no water wells reported within the project site, as listed on the U.S. Geological Survey (USGS) database and the California Department of Water Resources. Based on the relatively close proximity to relatively constant water levels associated with the coastline and adjacent Agua Hedionda Lagoon, as well as relative low soil permeabilities, groundwater levels are considered to have remained relatively constant, from a historic perspective, and fluctuate with precipitation. Nearby, groundwater has fluctuated between elevations ranging from 27 to 42.5 feet AMSL.

Geologic Hazards

The California Geological Survey provides the basis for the commonly accepted definition of an active fault: one that has had surface displacement within Holocene time (about the last 11,000 years). Additionally, the state geologist has defined potentially active faults as any fault considered to have been active during Quaternary time (last 1,600,000 years). This definition is used in delineating Earthquake Fault Zones as mandated by the Alquist-Priolo Geologic Hazards Zones Act (California PRC Sections 2621-2630). The intent of the Alquist-Priolo Geologic Hazards Zones Act is to assure that urban development and certain habitable structures are not built across the traces of active faults.

The project site is not included within any Earthquake Fault Zones as defined by the Alquist-Priolo Act; however, the site is situated in an area of active faulting. A review of available regional geologic maps does not indicate the presence of local active faults crossing the project site; however, an inactive fault transects the project site. Geological hazards at the project site would generally be associated with the potential for strong ground shaking due to an earthquake on the Rose Canyon fault zone. Each potential geologic hazard is described in more detail below.

Ground Rupture

Ground rupture is the movement on an active fault reaching the ground surface. The Rose Canyon fault zone is the closest known active fault to the project site, located at a distance of approximately 6.3 miles. The Rose Canyon is a right-lateral strike-slip fault zone believed to be capable of producing an earthquake with a characteristic moment magnitude of between 6.8 and 7.2; however, the site is

not within an Alquist-Priolo Earthquake Fault Zone. Consequently, ground rupture is not considered to be a substantial geologic hazard.

Seismicity

Southern California is considered a seismically-active region. The historic record of earthquakes in Southern California for the past 200 years has been reasonably well established. Based on recorded earthquake magnitudes and locations, the study area may be vulnerable to moderate seismic ground shaking during the design life of the proposed project. According to the geotechnical evaluation report, peak ground accelerations with a 2 and 10 percent probability of exceedance in a 50-year period are 0.44g and 0.23g, respectively.

Liquefaction

Seismically-induced liquefaction is a phenomenon in which cyclic stresses, produced by earthquake induced ground motion, create excess pore pressures in relatively cohesionless soils. These soils may thereby acquire a high degree of mobility, which can lead to sand boils, lateral movement/sliding volumetric consolidation and settlement of loose sediments, and other damaging deformations as pore pressures dissipate. This phenomenon occurs only below the water table, but after liquefaction has development, it can propagate upward into overlying, non-saturated soils, as excess pore water dissipates. Thus, one of the primary factors controlling liquefaction potential is the depth to groundwater.

The susceptibility of a site to liquefaction is related to numerous factors and the following conditions must generally exist, or have the potential to exist, for liquefaction to occur: 1) sediments must be relatively young in age and have not developed a large amount of cementation; 2) sediments must consist mainly of medium to fine grained, relatively cohesionless sands; 3) the sediments must have low relative density; 4) free groundwater must be present in the sediment; and, 5) the site must have a potential for a design seismic event of a sufficient duration and magnitude, to induce straining of soil particles. According to the geotechnical evaluation report (GeoSoils 2017), three of these five concurrent conditions have the potential to occur and/or exist on the project site. There is a potential for liquefaction to occur on the project site due to the relatively low density granular soils occurring within the 100 feet of the soil profile, relatively high elevation of groundwater, and a potential for a design seismic event of a sufficient duration and magnitude to induce straining of soil particles.

Surface Manifestation of Secondary Seismic Events

Based on the thickness of the potentially liquefiable layer, the minimum to maximum thickness of the non-liquefiable soil, depth of bedrock (approximately 20 to 36 feet) and ground acceleration for the design earthquake, there is a low potential for surface manifestation (i.e., sand boils, ground fissures, and cracking) to occur on the project site.

Lateral Spreading

Lateral spread is the lateral movement of stiff, surficial, mostly intact blocks of sediment or compacted fill displaced downslope towards a free face along a shear zone that has formed within the liquefied sediment. The resulting ground deformation typically has extensional fissures at the head of the failure, shear deformations along the side margins, and compression or buckling of the soil at the toe. Two types of lateral spread can occur: 1) lateral spread towards a free face (e.g., river/creek channel or embankment); and 2) lateral spread down a gentle ground slope where a free face is absent. Factors such as earthquake magnitude, distance from the seismic energy source, thickness of the liquefiable

layers, and the fine content and particle size of those sediments also correlate with ground displacement. Since no free face occurs on the project site and no adjacent lake is present, the only lateral spread that may possibly occur would be of low magnitude and because of slight elevation variations already within the established vicinity. The margins of the developed/undeveloped portions of the project site, along the western edge, may exhibit some lateral movement toward the natural or undeveloped areas.

Landslides

The existing slopes that descend from the mesa area were evaluated by visual observation, exploratory test pits, and literature review for the presence of landslide deposits. Landslide deposits were not noted within the project site during field work or during literature review, and no evidence of landslide deposits, and/or geomorphology indicative of landsliding (i.e., hummocky topography, scarps, lobate soil deposits, etc.) was noted within these slopes during site work. According to Landslide Hazard Identification Map No. 35, Plate 35A and 35B, the area is identified as “generally susceptible” to landslides based on slopes perceived to be near their stability limits due to weak materials or slope gradient. However, as indicated above, landslide deposits were not noted on the site during field work.

Expansive Soils

Laboratory testing indicates that the on-site soils exhibit expansion index (EI) values ranging from approximately 17 (very low) to 128 (high), with a plasticity index evaluated between 30 and 47. The on-site soils meet the criteria of detrimentally expansive soils as defined in Section 1803.5.3 of the 2016 California Building Code (CBC).

5.6.2 Regulatory Setting

Federal

United States Geological Survey Landslide Hazard Program

In the mid-1970s, the USGS created the Landslide Hazard Program with a primary objective to reduce long-term losses from landslide hazards by improving our understanding of the causes of ground failure and suggesting mitigation strategies. The lead role in funding and conducting this research is taken by the federal government, in contrast to the reduction of losses due to geologic hazards, which is primarily a state and local responsibility. Locally, in San Diego County, plans and programs designed for the protection of life and property are coordinated by the Unified San Diego County Emergency Services Organization.

State

California Building Code

The CBC is included in Title 24 of the California Code of Regulations. The CBC incorporates the International Building Code (IBC), a model building code adopted across the U.S. Through the CBC, the state provides a minimum standard for building design and construction. The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control. The CBC has been amended and adopted as Title 18 of the CMC, which regulates all building and construction projects within the city.

California Alquist-Priolo Earthquake Fault Zoning Act

In 1972, the Alquist–Priolo Earthquake Fault Zoning Act was passed to mitigate the hazard of surface faulting to structures that are used for human occupancy. The main purpose of the law is to prevent the construction of buildings used for human occupancy on top of active faults. The law only addresses the hazard of surface fault rupture; it is not directed toward other earthquake hazards, such as ground shaking or landslides. The law requires the state geologist to establish regulatory zones (known as Earthquake Fault Zones or Alquist–Priolo Zones) around the surface traces of active faults and issue maps showing these zones that are distributed to all affected cities, counties, and state agencies for planning and controlling new or renewed construction. Generally, construction within 50 feet of an active fault zone is prohibited. The California Geological Survey does not identify Carlsbad on its list of cities affected by Alquist–Priolo Earthquake Fault Zones.

California Seismic Hazards Mapping Act

In 1990, the Seismic Hazards Mapping Act was passed to address non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. Seismic hazard zones under this law are to be mapped by the state geologist to assist local governments in land use planning. The law requires the identification and mapping of seismic hazards so cities and counties can adequately prepare the safety element of their general plan, as well as encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety. According to Seismic Hazards Mapping Act, PRC Section 2697(a), prior to the approval of any project located in a seismic hazard zone, cities, and counties shall require a geotechnical report defining and delineating any seismic hazard related to a project. The state geologist has mapped part of the northwestern San Diego County, but the map does not include Carlsbad, as it is not affected by Seismic Hazards Zonation Program Zones.

National Pollution Discharge Elimination System Permits

The National Pollution Discharge Elimination System (NPDES) program in California is administered by the State Water Resources Control Board (SWRCB) and its RWQCB. As part of the CWA, the NPDES permit system was established to regulate both point source discharges and non-point source discharges to surface water of the U.S., including the discharge of soils eroded from construction sites. The NPDES program consists of characterizing receiving water quality, identifying harmful constituents (including siltation), targeting potential sources of pollutants (including excavation and grading operations), and implementing a comprehensive stormwater management program. Construction and industrial activities typically are regulated under statewide general permits that are issued by the SWRCB. The SWRCB also issues water discharge requirements that serve as NPDES permits under the authority delegated to the RWQCBs, under the CWA.

Local

The Public Safety Element of the *Carlsbad General Plan* (City of Carlsbad 2015a) regulates the placement of structures within city limits. The following goals from the general plan are related to geology and seismicity:

- Goal 6-G.1.** Minimize injury, loss of life, and damage to property resulting from fire, flood, hazardous material release, or seismic disasters.
- Goal 6-P.9.** Allow for consideration of seismic and geologic hazards at the earliest possible point in the development process, preferably before comprehensive engineering work has commenced.
- Goal 6-P.10.** Maintain geotechnical report guidelines identifying specific requirements for various levels of geotechnical evaluation, including reconnaissance studies, preliminary geotechnical investigation reports, and as-graded geotechnical reports.
- Goal 6-P.11.** Use information on Figure 6-4 as a generalized guideline for planning purposes and in determining the type and extent of geotechnical report to be required for a proposed development project. When a geotechnical report is required, require submission of the report and demonstration that a project conforms to all mitigation measures recommended in the report prior to city approval of the proposed development.
- Goal 6-P.12.** Require a geotechnical investigation and report of all sites proposed for development in areas where geologic conditions or soil types are susceptible to liquefaction. Also require demonstration that a project conforms to all mitigation measures recommended in the geotechnical report prior to city approval of the proposed development (as required by state law).
- Goal 6-P.13.** Prohibit location of critical structures directly across known earthquake faults unless a geotechnical and/or seismic investigation is performed to show that the earthquake fault is neither active nor potentially active.
- Goal 6-P.14.** Require applicants to conduct detailed geologic and seismic investigations at sites where the construction of critical structures (high-occupancy structures and those that must remain in operation during emergencies) and structures over four stories are under consideration.
- Goal 6-P.15.** In accordance with the California Subdivision Map Act, deny subdivision maps if a project site is not physically suitable for either the type or density of a proposed development because of geologic, seismic, or other hazards.
- Goal 6-P.16.** Require qualified geotechnical engineering professionals to review grading plans and inspect areas of excavation during and after grading, to evaluate slope stability and other geotechnical conditions that may affect site development and public safety. In areas of known or suspected landslides and/or adverse geologic conditions, the following determinations should be made: extent of landslide, depth-to-slide plane, soil types and strengths, presence of clay seams and ground water conditions.

- Goal 6-P.17.** Continue to regulate development, including remodeling or structural rehabilitation, to ensure adequate mitigation of safety hazards on sites having a history or threat of seismic dangers, erosion, subsidence, or flooding.

City Standard Condition of Approval

The proposed project will be required to comply with the following city standard conditions of approval:

- The proposed project shall comply with the city's excavation and grading ordinance (CMC Section 15.16).
- Grading information shall be submitted for review by the city with each subdivision map. Grading shall comply with grading standards and manufactured slope revegetation requirements of the city.
- All applicable federal, state, and local permits regarding drainage shall be obtained. Such permits include the NPDES permit from the RWQCB.
- Erosion control measures shall be provided to the satisfaction of the city engineer in accordance with the city's grading and erosion control requirements (CMC Section 15.16). The locations of all erosion control devices shall be noted on the grading plans.
- All grading permits authorizing grading during the rainy season (November 16th of any year to April 14th of the following year) shall require the installation of all erosion and sedimentation control protective measures in accordance with city standards. Erosion and runoff control measures shall be designed and bonded prior to approval of grading permits by the city.
- All permanent slopes shall be planted with erosion control vegetation, drained, and properly maintained to reduce erosion within 30 days of completion of grading. Erosion control and drainage devices shall be installed in compliance with the requirements of the city.
- All erosion and sedimentation control protective measures shall be maintained in good working order throughout the duration of the rainy season unless it can be demonstrated to the city engineer that their removal at an earlier date will not result in any unnecessary erosion or sedimentation on public or private properties.

5.6.3 Project Impacts

Thresholds of Significance

Appendix G of the CEQA Guidelines is used to provide direction for determination of a significant geology and soils impact from the proposed project. For the purpose of this EIR, a significant impact related to geology and soils would occur if the proposed project would result in:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:
 - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist- Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (based on the Division of Mines and Geology Special Publication 42)
 - ii. Strong seismic ground shaking
 - iii. Seismic-related ground failure, including liquefaction

iv. Landslides

- Result in substantial soil erosion or the loss of topsoil
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse
- Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Impact Analysis

Impact 5.6-1 Seismic Hazards

Would the proposed project expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving:

- i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist- Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (based on the Division of Mines and Geology Special Publication 42)*
- ii. *Strong seismic ground shaking*
- iii. *Seismic-related ground failure, including liquefaction*
- iv. *Landslides*

Rupture of a Known Earthquake Fault

The project site is not located in a fault rupture zone identified by the Alquist-Priolo Earthquake Fault Zoning Act or within any other area with substantial evidence of a known fault. The Rose Canyon fault zone is the closest known active fault to the project site, located at a distance of approximately 6.3 miles. Therefore, the proposed project would not expose people or structures to adverse effects from a known fault-rupture hazard zone, and no impact would occur.

Seismic Ground Shaking

The Rose Canyon fault zone is the closest known active fault to the project site, located at a distance of approximately 6.3 miles. The Rose Canyon is a right-lateral strike-slip fault zone believed to be capable of producing an earthquake with a characteristic moment magnitude of between 6.8 and 7.2. Seismic activity along nearby faults, which is common throughout California, could result in ground shaking conditions; however, all construction and design features would be required to meet or exceed the standard design parameters set forth in the CBC. The CBC requires that a building be designed in a manner to minimize damage and failure due to ground-shaking activities. Compliance with the CBC provides adequate protection from seismic ground shaking typical of the region. Accordingly, impacts related to seismic shaking would not significantly expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death. Therefore, the impact would be less than significant.

Seismic-Related Ground Failure

According to the geotechnical evaluation report, there is a potential for liquefaction to occur on the project site due to the relatively low density granular soils occurring within the 100 feet of the soil profile, relatively high elevation of groundwater, and a potential for a design seismic event of a sufficient duration and magnitude to induce straining of soil particles. Therefore, the potential for liquefaction on the project site is considered a significant impact because the materials underlying the site are considered liquefiable. However, with the implementation of Mitigation Measure GEO-1, the potential liquefaction impact would be reduced to a level less than significant. Mitigation Measure GEO-1 requires that all future grading and construction of the project site comply with the geotechnical recommendations contained in the *Update of the Geotechnical Update Evaluation for Marja Acres* (GeoSoils 2018a) (Appendix E1 of this EIR), which identifies the excavation and replacement of these materials with a dense compacted fill prior to site development.

Landslides

According to Landslide Hazard Identification Map No. 35, Plate 35A and 35B, the area is identified as “generally susceptible” to landslides based on slopes perceived to be near their stability limits because of weak materials or slope gradient. Although landslide deposits were not noted within the project site during field work, there is potential for slope instability to occur during site grading. The potential for slope instability on the project site is considered a significant impact. However, with the implementation of Mitigation Measure GEO-1, the potential slope instability impact would be reduced to a level less than significant. Mitigation Measure GEO-1 requires that all future grading and construction of the project site comply with the geotechnical recommendations contained in the *Update of the Geotechnical Update Evaluation for Marja Acres* (GeoSoils 2018a) (Appendix E1 of this EIR). The geotechnical recommendations include typical site earthwork, engineered surface drainage control, and landscaping for slope stability.

Impact 5.6-2 Substantial Soil Erosion or Loss of Topsoil

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

Loose, compressible undocumented fill and alluvial soils cover much of the project site. Earthwork for the proposed project will include site preparation, excavations, fill placement, trench backfill, and compaction of compressible soils. These types of activities can expose soils in the project area to possible wind and water erosion.

Erosion would be addressed through the implementation of the existing erosion control standards and policies of the city. Erosion control measures would be provided to the satisfaction of the city engineer in accordance with the city’s grading and erosion control requirements (CMC Section 15.16). The locations of all erosion control devices would be noted on the grading plans. The proposed project will also be required to comply with NPDES permit requirements, including preparation of a SWPPP, which would include BMPs to address soil erosion. Compliance with these existing regulations adequately addresses the potential for erosion control. Therefore, the impact would be less than significant.

Impact 5.6-3 Unstable Geologic Unit or Soil

Would the proposed project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

As previously indicated, the project site is covered in undocumented fill, surficial deposits of colluvium, and near surface deposits of alluvium. According to the geotechnical evaluation prepared for the proposed project, these are not considered suitable for the support of settlement-sensitive improvements or engineered fill in their existing state. Without mitigation, the presence of these materials may have the potential to produce a potentially significant impact as a result of unstable geologic units or soils. With implementation of Mitigation Measure GEO-1, the potential impact related to unstable geologic units or soils would be reduced to a level less than significant. Mitigation Measure GEO-1 requires that all future grading and construction of the project site comply with the geotechnical recommendations contained in the *Update of the Geotechnical Update Evaluation for Marja Acres* (GeoSoils 2018a) (Appendix E1 of this EIR). Geotechnical recommendations include the complete removal of the loose, compressible undocumented fill and alluvial soils and replacement with compacted fill.

Impact 5.6-4 Expansive Soils

Would the proposed project be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

According to the geotechnical evaluation prepared for the proposed project, the on-site soils exhibit EI values ranging from approximately 17 (very low) to 128 (high). The on-site soils meet the criteria of detrimentally expansive soils, as defined in Section 1803.5.3 of the 2016 CBC. Therefore, the presence of expansive soils on the project site has the potential to create a substantial risk to life or property. However, with the implementation of Mitigation Measure GEO-1, the potential impact associated with the presence of expansive soils would be reduced to a level less than significant. Mitigation Measure GEO-1 requires that all future grading and construction of the project site comply with the geotechnical recommendations contained in the *Update of the Geotechnical Update Evaluation for Marja Acres* (GeoSoils 2018a) (Appendix E1 of this EIR). Geotechnical recommendations include the removal of expansive soils with non-detrimentally expansive soils (i.e., EI <21).

Impact 5.6-5 Soils to Support the Use of Septic Tanks or Alternative Waste Water Disposal Systems

Would the proposed project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The proposed project would rely on public sewer for the disposal of wastewater. The proposed project would be served by the city for sewer service. The proposed project would not use septic tanks or alternative waste water disposal systems. Therefore, no impact would occur.

5.6.4 Level of Significance before Mitigation

The potential for liquefaction, landslides, unstable geologic units, and expansive soils could result in potentially significant impacts that require mitigation. Implementation of Mitigation Measure GEO-1 would reduce these impacts to a level less than significant.

5.6.5 Environmental Mitigation Measures

GEO-1 Prior to approval of final engineering and grading plans for the project, the city's Land Development Engineering Department shall verify that all recommendations contained in

the Update of the Geotechnical Update Evaluation for Marja Acres (GeoSoils 2018) have been incorporated into all final engineering and grading plans. The city's soil engineer and engineering geologist shall review grading plans prior to finalization to verify plan compliance with the recommendations of the report. All future grading and construction of the project site shall comply with the geotechnical recommendations contained in the geotechnical report. The report identifies specific measures for mitigating geotechnical conditions on the project site and addresses grading, slope stability, foundations, concrete slabs-on-grade, and retaining walls.

5.6.6 Level of Significance after Mitigation

Implementation of Mitigation Measure GEO-1 would reduce the impacts on geology/soils to a level less than significant.

5.7 Greenhouse Gas Emissions/Climate Change

This section summarizes the existing conditions, describes the regulatory framework, and discusses potential impacts with regard to greenhouse gas (GHG) emissions as a result of implementation of the proposed project. The following technical study analyzes the potential impacts from the proposed project:

- *Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan* (Dudek 2019) (Appendix B of this EIR)

The technical appendices are included on the attached CD found on the back cover of this EIR. Additional background was also obtained from the *Carlsbad General Plan* (City of Carlsbad 2015a) and *Carlsbad Climate Action Plan* (CAP) (City of Carlsbad 2015c).

5.7.1 Existing Conditions

Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the Sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by the Earth's atmosphere.

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century and is the most significant driver of observed climate change. Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system. The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (Appendix B of this EIR).

Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), O₃, water vapor, hydrofluorocarbons (HFC), hydrochlorofluorocarbons (HCFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). The most common GHGs and their sources are described below.

Carbon Dioxide. CO₂ is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO₂ include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO₂ are from the combustion of fuels, such as coal, oil, natural gas, and wood, and changes in land use.

Methane. CH₄ is produced through both natural and human activities. CH₄ is a flammable gas and is the main component of natural gas. CH₄ is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N₂O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N₂O. Sources of N₂O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N₂O as a propellant (such as in rockets, race cars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric O₃-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O₃-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as byproducts of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the O₃-depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF₆ is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF₆ is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF₃ is used in the manufacture of a variety of electronics, including semiconductors, and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere

(troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O₃.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds with a structure very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including 1 or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Greenhouse Gas Inventories

Global

According to the World Resources Institute, anthropogenic GHG emissions worldwide in 2012 totaled approximately 44,816 million metric tons CO₂e (Appendix B of this EIR). Six countries—China, the United States, the Russian Federation, India, Japan, and Brazil—and the European community accounted for approximately 65 percent of the total global emissions, approximately 29,300 MMT CO₂e (Appendix B of this EIR).

California

According to California's 2000–2015 GHG emissions inventory (2017 edition), California emitted 440.36 MMT CO₂e in 2015, including emissions resulting from out-of-state electrical generation (Appendix B of this EIR). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high GWP substances, and recycling and waste.

Carlsbad

In 2008, the city prepared an inventory of 2005 communitywide GHG emissions, including emissions from government operations. As part of the CAP preparation effort in 2015, this inventory was updated to include data from 2011 to provide a more current measure of emissions and to establish a business-as-usual trend line. The community inventory tallied emissions from six sectors (residential, commercial, industrial, transportation, solid waste, and wastewater). Table 5.7-1 compares the 2005 and 2011 communitywide GHG emissions.

Table 5.7-1. City of Carlsbad Greenhouse Gas Emissions by Sectors

Sector	2005 (MTCO ₂ e)	2011 (MTCO ₂ e)
Transportation	289,431	273,745
Commercial/Industrial	170,041	224,960
Residential	136,427	176,405
Solid Waste	30,015	24,317
Wastewater	4,397	6,317
Total	630,310	705,744

Source: City of Carlsbad 2015c

Notes:

MTCO₂e=million metric tons of carbon dioxide equivalent

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (Appendix B of this EIR).

The California Natural Resources Agency's Fourth Climate Change Assessment (Fourth Assessment) produced updated climate projections that provide state-of-the-art understanding of different possible climate futures for California. The science is highly certain that California (and the world) will continue to warm and experience greater impacts from climate change in the future. While the Intergovernmental Panel on Climate Change and the National Climate Assessment have released descriptions of scientific consensus on climate change for the world and the United States, respectively, the Fourth Assessment summarizes the current understanding of climate impacts and adaptation options in California (California Natural Resources Agency 2018). Projected changes in the California include:

- **Temperatures:** If GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historical average by:
 - 2.7 Fahrenheit (°F) from 2006 to 2039
 - 5.8°F from 2040 to 2069
 - 8.8°F from 2070 to 2100
- **Wildfire:** One Fourth Assessment model suggests large wildfires (greater than 25,000 acres) could become 50 percent more frequent by the end of century if emissions are not reduced. The model produces more years with extremely high areas burned, even compared to the historically destructive wildfires of 2017 and 2018. By the end of the century, California could

experience wildfires that burn up to a maximum of 178 percent more acres per year than current averages.

- **Sea-Level Rise:** If emissions continue at current rates, the Fourth Assessment model results indicate that total sea-level rise by 2100 is expected to be 54 inches, almost twice the rise that would occur if GHG emissions are lowered to reduce risk.
- **Snowpack:** By 2050, the average water supply from snowpack is projected to decline to 2/3 from historical levels. If emissions reductions do not occur, water from snowpack could fall to less than 1/3 of historical levels by 2100.

5.7.2 Regulatory Setting

State

Executive Order S-3-05

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order (EO) S-3-05, which are: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

Assembly Bill 32

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, California Air Resources Board (CARB) is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 million metric tons of CO₂ equivalent [MMT CO₂e]). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan) in accordance with Health and Safety Code Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The key elements of the Scoping Plan include the following (Appendix B of this EIR):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33 percent.

3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions.
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard.
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (Appendix B of this EIR). Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal.

On January 20, 2017, CARB released the *2017 Climate Change Scoping Plan Update* (Second Update) for public review and comment. This update presents CARB's strategy for achieving the state's 2030 GHG target as established in SB 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20 percent. The Second Update incorporates approaches to cutting short-lived climate pollutants under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017) and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. When discussing project-level GHG emissions reduction actions and thresholds, the Second Update states "achieving no net increase in GHG emissions is the correct overall objective, but it may not be appropriate or feasible for every development project. An inability to mitigate a project's GHG emissions to zero does not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA" (Appendix B of this EIR). The Final Proposed Scoping Plan Update was adopted by CARB's Governing Board on December 14, 2017.

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires State agencies to implement measures to meet the interim 2030 goal of Executive Order B-30-15, as well as the

long-term goal for 2050 in Executive Order S-03-5. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

Senate Bill 32

Senate Bill (SB) 32 was passed by the legislature and signed by the governor on September 8, 2016. The California Global Warming Solutions Act of 2006 designates CARB as the state agency charged with monitoring and regulating sources of emissions of GHGs. As noted above, CARB is required to approve a statewide GHG emissions limit equivalent to the statewide GHG emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG emissions reductions. SB 32 requires CARB to further ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030.

State of California Building Energy Efficiency Standards (Title 24, Part 6)

Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These standards are updated to consider and incorporate new energy-efficient technologies and construction methods.

The 2016 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2017. In general, single-family homes built to the 2016 standards are anticipated to use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5 percent less energy than those built to the 2013 standards (Appendix B of this EIR).

California Green Building Code

The California Green Building Standards Code is commonly referred to as CALGreen and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following:

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings.
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance.
- 65 percent of construction and demolition waste must be diverted from landfills.
- Mandatory inspections of energy systems to ensure optimal working efficiency.

- Inclusion of electric vehicle (EV) charging stations or designated spaces capable of supporting future charging stations.
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. The voluntary standards include:

- **Tier 1:** 15 percent improvement in energy requirements, stricter water conservation, 65 percent diversion of construction and demolition waste, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous
- **Tier 2:** standards call for a 30% improvement in energy requirements, stricter water conservation, 75 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs.

California State Senate Bill 375

California State SB 375 was signed into law in 2008 and is intended to provide a means for achieving AB 32 GHG emissions target reduction goals from cars and light trucks through long-range regional growth strategies and transportation plans. SB 375 is directed toward California's 18 Metropolitan Planning Organizations (MPO).

Under SB 375, each MPO is required to develop a "Sustainable Communities Strategy" (SCS), a newly required element of the Regional Transportation Plan (RTP). SB 375 does not take over local planning functions, and a SCS does not in any way supersede a General Plan, specific plan, or local zoning ordinance. Additionally, SB 375 does not require any consistency between the SCS and these planning and development regulatory documents. However, the MPOs are required to develop the SCS through integrated land use and transportation planning and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035.

CARB's targets for San Diego County call for the region to reduce per capita emissions 7 percent by 2020 and 13 percent by 2035 based on a 2005 baseline. There are no mandated targets beyond 2035.

The San Diego Association of Governments (SANDAG) adopted San Diego Forward: The Regional Plan (Regional Plan) on October 9, 2015, which combines and updates the region's two big picture planning documents: the Regional Comprehensive Plan (RCP) for the San Diego Region and the 2050 RTP and SCS. The Regional Plan reflects a strategy for a more sustainable future which includes investing in a transportation network that will provide people more travel choices, protects the environment, creates healthy communities, and stimulates economic growth to benefit all San Diegans. The SCS charts a course toward lower GHG emissions related to vehicles and proposes other measures to make the San Diego region more environmentally sustainable.

In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

Renewable Portfolio Standards

California's Renewable Portfolio Standard (RPS), established in 2002 by the California State Senate in SB 1078, accelerated in 2006 and expanded in 2011, is one of the most ambitious renewable energy standards in the country. The RPS requires each energy provider to supply electricity from eligible renewable energy resources to 33 percent of the total supply by 2020.

Senate Bill 350

SB 350 was signed into law in September 2015. SB 350 establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Local

Carlsbad General Plan

The Sustainability Element and of the *Carlsbad General Plan* (City of Carlsbad 2015a) identifies goals and policies related to GHG reduction. The following goals and policies are applicable to the proposed project:

- Goal 9-G.2.** Undertake initiatives to enhance sustainability by reducing the community's GHG emissions and fostering green development patterns – including buildings, sites, and landscapes.
- Goal 9-G.3.** Promote energy efficiency and conservation in the community.
- Policy 9-P.1.** Enforce the CAP as the city's strategy to reduce GHG emissions.
- Policy 9-P.2.** Continue efforts to decrease the use of energy and fossil fuel consumption in municipal operations, including transportation, waste reduction and recycling, and efficient building design and use.

Carlsbad Climate Action Plan and Consistency Checklist

The City's CAP was unanimously adopted by the City Council on September 22, 2015 (City of Carlsbad 2015c). The CAP is designed to reduce the city's GHG emissions and streamline environmental review of future development projects in the city in accordance with CEQA.

The CAP includes goals, policies, and actions for the city to reduce GHG emissions and combat climate change and includes: an inventory of citywide and local government GHG emissions; forecasts of future citywide and local government GHG emissions; a comprehensive, citywide strategy and actions to manage and reduce GHG emissions, with emission targets through 2035; and actions that demonstrate the city's commitment to achieve state GHG reduction targets by creating enforceable measures, and monitoring and reporting processes to ensure targets are met. The timeframe for the CAP extends from the date of adoption through 2035. The CAP is considered a qualified plan as described in CEQA Guidelines Section 15183.5(b).

The CAP is intended to be a tool for policy makers, community members and others to guide the implementation of actions that limit the city's GHG emissions. Ensuring that the mitigation measures in the CAP translate from policy language to on-the-ground results is critical to the success of the CAP.

In 2017, the city implemented a CAP Consistency Checklist (Checklist) that, in conjunction with the CAP, provides a streamlined review process for proposed new development projects. The Checklist contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of the Checklist measures would ensure that new development is consistent with relevant CAP strategies toward achieving the identified GHG reduction targets.

If a project is consistent with the projections in the CAP as determined through the use of the Checklist, its associated growth in terms of GHG emissions was accounted for within the scope of the CAP's analysis and program of measures that contribute toward reducing overall city GHG emissions below identified GHG targets. If a project is consistent with the CAP, it may rely on the CAP for its cumulative GHG emissions analysis since it would result in less than significant GHG emissions and would not result in a cumulatively considerable GHG impact. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in the Checklist to the extent feasible.

5.7.3 Project Impacts

Thresholds of Significance

Based on guidance provided in Appendix G of the CEQA Guidelines, a project would have a significant GHG emissions impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

1. Use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
2. Rely on a qualitative analysis or performance based standards.

The factors the lead agency should consider when assessing the significance of impacts from GHG emissions on the environment include, pursuant to Section 15064.4(b) of the CEQA Guidelines:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Section 15064.7(c) of the CEQA Guidelines specifies that “when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”

Climate Action Plan Screening Thresholds

As previously discussed, the city adopted a CAP in September 2015 that outlines actions the city will undertake to achieve its proportional share of GHG reductions. The CAP identified project screening thresholds based on guidance from the California Air Pollution Control Officers Association (CAPCOA). The city determined that new development projects emitting less than 900 MTCO_{2e} annual GHG would not contribute considerably to cumulative climate change impacts (City of Carlsbad 2015c). Table 5.7-2 lists types and sizes of projects that correspond to the CAP’s 900 MTCO_{2e} screening threshold. The city’s CAP indicates that for projects above the screening thresholds (Table 5.7-2), project proponents shall complete the CAP Consistency Checklist to demonstrate consistency with the CAP, or a self-developed GHG-reduction program. Because the proposed project exceeds the CAP’s 900 MTCO_{2e} screening threshold (City of Carlsbad 2015c), the project applicant completed the Checklist.

Table 5.7-2. Project Review Thresholds

Project/Plan Type	Screening Threshold
Single-Family Housing	50 dwelling units
Multi-Family Housing	70 dwelling units
Office	35,000 square feet
Retail Store	11,000 square feet
Grocery Store	6,300 square feet

Source: City of Carlsbad 2015c

Impact Analysis

Impact 5.7-1 Generate Significant Levels of Greenhouse Gases

Would the proposed project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

The checklist is intended to streamline project-level CEQA review as an applicable threshold of significance. If a project is consistent with the CAP as determined through use of the checklist, then the project’s incremental contribution to a cumulative GHG emissions effect would be less than

significant. As indicated below, the proposed project's checklist indicates that the project is consistent with the CAP. The completed checklist for the proposed project is included in Appendix C, Carlsbad CAP Consistency Checklist of the Air Quality and Greenhouse Gas Emissions Analysis Technical Report (Appendix B of this EIR).

Construction

Construction of the proposed project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles.

GHG emissions associated with temporary construction activity were quantified using CalEEMod (Version 2016.3.2). For the purposes of modeling, it was assumed that construction of the proposed project would last approximately 39 months. A detailed description of the construction schedule, including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles is included in the *Air Quality and Greenhouse Gas Emissions Analysis Technical Report* prepared for the project (Appendix B of this EIR).

Table 5.7-3 shows the estimated annual GHG construction emissions associated with the proposed project. As shown in Table 5.7-3 construction of the proposed project would generate 1,090 MTCO_{2e}. When amortized over the life of the project (over 30 years), the yearly contribution to GHG from the aggregate of construction at the project site would be 36 MTCO_{2e} per year.

Table 5.7-3. Estimated Annual Construction Greenhouse Gas Emissions

Year	Pollutant Emissions (metric tons/year)			
	CO ₂	CH ₄	N ₂ O	CO _{2e}
2019	924.59	0.20	0.00	929.70
2020	77.08	0.01	0.00	77.27
2021	74.82	0.01	0.00	75.00
2022	7.70	0.00	0.00	7.74
Total				1,089.71
Amortized Emissions				36.32

Source: Appendix B of this EIR

Notes:

CO₂=carbon dioxide; CH₄=methane; N₂O=nitrous dioxide; CO_{2e}=carbon dioxide equivalent

Operation

Operation of the proposed project would generate GHG emissions through motor vehicle trips to and from the project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the proposed project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment.

The estimated operational (Year 2023) project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation are shown in Table 5.7-4. As shown in Table 5.7-4, in 2023, estimated annual GHG emissions would be approximately 2,298 MTCO_{2e} as a result of project operations.

Table 5.7-4. Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	Pollutant Emissions (Metric Tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Area	3.62	0.00	0.00	3.70
Energy	430.60	0.01	0.01	432.73
Mobile	1,714.09	0.09	0.00	1,716.33
Solid waste	10.52	0.62	0.00	26.06
Water supply and wastewater	96.37	0.69	0.02	118.68
Total Operational Emissions				2,297.50
Amortized Construction Emissions				36.32
Operation + Amortized Construction Total				2,333.82

Source: Appendix B of this EIR

Notes:

CO₂=carbon dioxide; CH₄=methane; N₂O=nitrous dioxide; CO₂e=carbon dioxide equivalent

Summary of Total Greenhouse Gas Emissions

As shown in Table 5.7-4, estimated annual project-generated GHG emissions in 2023 from area, energy, mobile, solid waste, and water/wastewater sources and amortized project construction emissions would be approximately 2,334 MTCO₂e, which exceeds the CAP's 900 MTCO₂e screening threshold.

Carlsbad Climate Action Plan Consistency Checklist

The Checklist includes a two-step process to determine consistency within the CAP. Step 1 consists of an evaluation to determine the project's consistency with land use assumptions used in the CAP. If the proposed project is able to answer "yes" to Step 1 and demonstrate consistency with the existing Carlsbad General Plan, Community Plan, and zoning designations for the site, then the project may proceed to Step 2. If a project cannot establish land use consistency, then the project's GHG impact would be potentially significant and a GHG analysis must be prepared in accordance with the City's *Guidance to Demonstrating Consistency with the Climate Action Plan for Discretionary Projects Subject to CEQA* (City of Carlsbad 2017b) to demonstrate how it would offset the increase in emissions over the CAP's existing assumptions. In Step 2 of the Checklist, project applicants quantify project design parameters to demonstrate compliance with the Checklist measures.

The proposed project's consistency with Steps 1 and 2 of the Checklist are presented below in accordance with the city's *Guidance to Demonstrating Consistency with the Climate Action Plan for Discretionary Projects Subject to CEQA* (City of Carlsbad 2017b). The completed Checklist for the proposed project is included in Appendix C – Carlsbad CAP Consistency Checklist of the *Air Quality and Greenhouse Gas Emissions Analysis Technical Report* (Appendix B of this EIR).

Step 1: Land Use Consistency

- **Question 1.** Step 1 of the Checklist determines the project's consistency with the land use assumptions used in the CAP. The first question of Step 1 asks if the project would emit fewer than 900 MTCO₂e per year or exceed specified development characteristics.

- **Response:** The project would emit greater than 900 MTCO₂e as it would include 296 units, which is greater than the 50-dwelling-unit screening threshold.
- **Question 2.** Question 2 of Step 1 asks if the project is consistent with the General Plan and Zoning Designations, or if the project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG intensive project when compared to the existing designations.
 - **Response:** The project site is designated by the Carlsbad General Plan as Residential (R-15) and General Commercial (GC). The project site is currently zoned as General Commercial (C-2) and Residential Density – Multiple (RD-M). The C-2 zone includes commercial and office uses providing convenience goods, personal services, and day-to-day living needs plus a wide range of retail, wholesale, and service uses which requires a site development plan. The RD-M zone includes all types of residential dwellings over a broad range of densities. The Zoning Ordinance contains density bonus provisions that allow for increased density with the provision of affordable housing, and other provisions that allow for some residential within a commercial zone (mixed-use). The proposed project's restaurant and retail pads, and mixed-use residential consisting of age-restricted affordable housing and townhome units are consistent with the C-2 zoning with the Zoning Ordinance density bonus and mixed-use provisions. The residential portion of the project is consistent with the RD-M zoning and Zoning Ordinance density bonus provisions. Therefore, the project is consistent with the Carlsbad General Plan land use and zoning designations for the site.

Based on the above considerations, the proposed project is consistent with the land use assumptions used in the CAP and the Carlsbad General Plan land use and zoning designations of project site. Therefore, the proposed project is consistent with the land use assumptions used in the CAP based on Step 1 of the city's Checklist.

Step 2: Climate Action Plan Measures Consistency

The second step of the CAP consistency review is to review and evaluate a project's consistency with the applicable measures and actions of the CAP. The proposed project's consistency with the CAP measures is shown in Table 5.7-5. As shown in Table 5.7-5, the proposed project would include applicable CAP measures, such as solar photovoltaic (PV) systems, light-emitting diode (LED) lighting, and EV charging capable parking spaces and charging stations, to minimize GHG emissions. Therefore, the proposed project would be consistent with Step 2 of the city's Checklist.

Conclusion

Based on the analysis provided above, the proposed project would be consistent with Steps 1 and 2 of the Checklist. Accordingly, the proposed project is consistent with the city's CAP. Projects consistent with the Checklist would result in a less than significant impact on the environment.

Table 5.7-5. Step 2: Climate Action Plan Measures Consistency

CAP Measure	Project Consistency
Residential Photovoltaic Systems <i>Does the project include photovoltaic systems with a minimum average system size of 1.6 kilowatts for each residential unit?</i>	Consistent. The proposed project would include solar PV systems with a minimum system size of at least 1.6 kilowatts per hour for each residential unit.
Commercial and Industrial Photovoltaic Systems <i>For new nonresidential projects with more than 50 cars surface parked or on roofs of parking structures, would the project include photovoltaic panels over at least half of the surface/roof-parked cars to achieve a minimum system size equivalent to 2.5 kilowatts² per covered parking space (up to 45 percent of project's expected annual electricity use)? Or,</i> <i>Would the project provide equivalent energy generation onsite through rooftop photovoltaic panels or other means?</i>	Consistent. The proposed project would include at least a 74 kW solar PV system for the retail and restaurant components of the project, which is estimated to offset at least 45 percent of the electricity use of the retail and restaurant components.
LED Lighting and Other Energy Efficient Lamps <i>Would at least 75 percent of the luminaires provided by the project be comprised of LED or other similarly efficient lighting?</i>	Consistent. The proposed project would include at least 75 percent of LED or other efficient lighting for both interior and exterior lighting fixtures for the residential and commercial portions of the project.
Solar Water Heating <ul style="list-style-type: none"> • Residential Units: <i>Does the project include a solar water heating system capable of producing 2,300 kWh/year or 112 therms/year of total energy required for water heating?</i> • Commercial Projects: <i>Does the project include a solar water heating system capable of producing at least 50 percent of total energy required for water heating?</i> • Restaurants of 8,000 square feet or greater with a service water heater rated 75,000 Btu/h or greater: <i>Does the project include installation of a solar water-heating system with a minimum solar saving fraction of 0.15 consistent with non-residential voluntary standards of the California Green Building Standards Code?</i> <p>Exceptions to this measure include:</p> <ol style="list-style-type: none"> 1. Buildings with a natural gas service water heater with a minimum of 95 percent thermal efficiency. 2. Buildings where greater than 75 percent of the total roof area has annual solar access that is less than 70 percent. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access. 	Consistent. The proposed project would include natural gas service water heaters with a minimum of 95 percent thermal efficiency which is an acceptable exception for this Checklist item.
Transportation Demand Management <i>For non-residential projects with more than 50 employees, would the project include a transportation demand management (TDM) plan reviewed and approved by the City of Carlsbad Transportation Division?</i>	Not Applicable. The commercial portion of the proposed project would not employ more than 50 employees. Therefore, a proposed TDM plan is not required for the project.

Table 5.7-5. Step 2: Climate Action Plan Measures Consistency

CAP Measure	Project Consistency
<p>Zero-Emission Vehicle Infrastructure</p> <ul style="list-style-type: none"> • One- and two-family dwellings and townhouses with attached private garages: Would the required parking serving each new dwelling be “EV Ready” to allow for the future installation of EV supply equipment to provide an EV charging station for use by the resident? • Multi-Family Projects of fewer than 17 dwelling units: Would a minimum of one parking space be “EV Ready” to allow for the future installation of EV supply equipment to provide EV charging stations at such time as it is needed for use by residents? • Multi-Family Projects of 17 or more dwelling units: Would five percent of the total parking spaces required, or a minimum of two spaces, whichever is greater, be “EV Capable” to allow for the future installation of EV supply equipment to provide EV charging stations at such time as it is needed for use by residents? Of the total “EV Capable” spaces provided, would 50 percent of them, or a minimum of one, whichever is greater, have the necessary EV supply equipment to provide active charging stations ready for use by residents and guests? • Non-residential projects: Would 6 percent of the total parking spaces required, or a minimum of one space, whichever is greater, be “EV Capable” to allow for the future installation of EV supply equipment to provide EV charging stations at such time as it is needed for use by future occupants? Of the total “EV Capable” spaces provided, would 50 percent of them, or a minimum of one, whichever is greater, have the necessary EV supply equipment to provide active charging stations ready for use by customers and employees? 	<p>Consistent. The proposed project’s townhome residential units with private garages would be prewired with a dedicated 208/240 branch circuit installed in conduit that originates at the electrical service panel or subpanel and 40 ampere minimum overcurrent protection device, and terminates into a cabinet, box or enclosure. The age-restricted apartments (multi-family of 17 or more units) will require three parking spaces, one of which shall be EV Capable and two of which shall be active EV charging stations. The retail and restaurant components of the project require 59 parking spaces. Thus, the proposed project is required to have four EV Capable spaces. The p four EV Capable spaces would have a cabinet, box, or enclosure connected to a conduit linking the parking space to the electrical service panel. The electrical service panel will provide sufficient capacity to simultaneously charge all EVs with or without a load management system. The project would also include two active EV charging stations for public use.</p>
<p>Water Utilities System Improvements <i>For one- and two-family residential projects, does the project include:</i></p> <ul style="list-style-type: none"> • <i>Waste piping to permit the discharge of greywater to be used for outdoor irrigation in compliance with Section 1502 of the California Plumbing Code?</i> 	<p>Not Applicable. This measure applies to one- and two-family residential projects.</p>

Source: Appendix B of this EIR

Impact 5.7-2 Conflict with Plans Adopted for the Purpose of Reducing Greenhouse Gas Emissions

Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions?

The following summarizes the proposed project's consistency with the city's CAP, and discusses the project's consistency with SANDAG's Regional Plan, and the Scoping Plan.

Carlsbad Climate Action Plan

The city's CAP is considered a qualified GHG reduction plan in accordance with CEQA Guidelines Section 15183.5. As discussed above under Impact 5.7-1, the proposed project would be consistent with the CAP as demonstrated by the Checklist. The proposed project includes several design features, such as solar PV systems, LED lighting, and EV parking spaces and charging stations, that would help reduce GHG emissions in line with the city's CAP. Table 5.7-6 summarizes the project's consistency with the CAP's overall measures and goals. As shown in Table 5.7-6, the proposed project would be consistent with the applicable measures identified in the CAP.

Table 5.7-6. Carlsbad Climate Action Plan Consistency Analysis

Measure	Consistency Analysis
<i>Residential, Commercial, and Industrial PV Systems</i>	
A: Promote Installation of Residential PV Systems	Consistent. The proposed project would include solar PV systems for the residential component of the project.
B: Promote Installation of Commercial and Industrial PV Systems	Consistent. The proposed project would include solar PV systems for the commercial component of the project.
<i>Building Cogeneration</i>	
C: Promote Building Cogeneration for Large Commercial and Industrial Facilities	Not Applicable. This does not apply to the project.
<i>Single-family, Multi-family, Commercial, and City Facility Efficiency Retrofits</i>	
D: Encourage Single-Family Residential Energy Efficiency Retrofits	Not Applicable. This does not apply to the project as it is for existing buildings.
E: Encourage Multi-Family Residential Efficiency Retrofits	Not Applicable. This does not apply to the project as it is for existing buildings.
F: Encourage Commercial and City Facility Efficiency Retrofits	Not Applicable. This does not apply to the project as it is for existing buildings.
<i>Commercial and City Facility Commissioning</i>	
G: Promote Commercial and City Facility Commissioning	Consistent. The commercial component of the proposed project would be commissioned prior to operation.
<i>Green Building Code</i>	
H: Implement Green Building Measures	Consistent. This does not apply to the proposed project as it is for the city to implement.

Table 5.7-6. Carlsbad Climate Action Plan Consistency Analysis

Measure	Consistency Analysis
Efficient Lighting Standards	
I: Promote Replacement of Incandescent and Halogen Bulbs with LED or Other Efficiency Lamps	Consistent. The proposed project would include LED lighting for at least 75 percent of lighting throughout the project.
Solar Water Heater/Heat Pump Installation	
J: New Construction Residential and Commercial Solar Water Heater Installation	Consistent. In lieu of solar water heaters, the proposed project would install natural gas water heaters that have at least 95 percent efficiency rating.
Transportation Demand Management	
K: Promote Transportation Demand Management Strategies	Not Applicable. The commercial portion of the project would not employ more than 50 employees. Therefore, a proposed TDM plan is not required for the project.
Increased Zero-Emissions Vehicle Travel	
L: Promote an Increase in the Amount of Zero-Emissions Vehicle Travel	Consistent. The proposed project would include EV =Capable, active EV, and public EV charging stations onsite.
Citywide Renewable Projects	
M: Develop More Citywide Renewable Energy Projects	Not Applicable. This does not apply to the project as it is for the city to implement.
Water Utilities System Improvements	
N: Reduce GHG Intensity of Water Utilities Supply Conveyance, Treatment, and Distribution	Not Applicable. This does not apply to the project as it is for the city to implement.

Source: Appendix B of this EIR

San Diego Regional Association of Governments San Diego Forward: the Regional Plan

The Regional Plan identifies strategies to move the San Diego region toward sustainability. This includes focusing housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit. Regarding consistency with SANDAG's Regional Plan, the proposed project would provide residential uses that would complement existing residential development located to the east, south, and west. The proposed project includes residential development in a location that is central to urban land uses and services; including nearby education (Kelly Elementary School) and recreational area (Laguna Riviera City Park).

The proposed project would include site design elements and project design features developed to support the policy objectives of the RTP and SB 375. The proposed project incorporates smart growth and sustainable design principles in its development plan. More specifically, the project's design and compact setting facilitates a comprehensive, multi-modal transportation network and puts more people in areas that are more accessible to a range of transportation options, including public transit. North County Transit District (NCTD) Bus Routes 309 and 323 serve the project area with nearby stops along both directions of El Camino Real at Kelly Drive and Lisa Street. The convenient availability of walking and bicycling trails and parks that are accessible for use by residents will serve to reduce

vehicle miles traveled (VMT). Sidewalks are included throughout the roadway network within the immediate project area. The following bike lanes currently exist within the immediate area:

- El Camino Real (Class II)
- Tamarack Avenue (Class II)
- Kelly Drive (Class II)
- Cannon Road (Class II)

Because the proposed project is an infill project, it will have lower VMT than a project located at the outskirts of a city. The design and locational attributes of the proposed project positively emphasize particular commuting choices and convenient access to the rest of the city and the region, which will reduce the number of vehicle trips and overall VMT.

SANDAG worked with the local jurisdictions to identify Regional Housing Needs Assessment allocation options that meet the four goals of housing element law (Government Code Section 65484(d)(1)-(4)) within the Regional Plan. The second of the four objectives of the SANDAG Regional Housing Needs Assessment is to promote infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns. Also, one of the key achievements projected for the Regional Plan is for nearly three-quarters of multi-family housing to be built on redevelopment or infill sites. The proposed project would develop future housing opportunities in an infill location that capitalizes on existing infrastructure rather than other non-developed areas—including open space areas, sensitive habitats, or areas otherwise constrained due to topography, flooding, or other factors. The proposed project would be consistent with this goal as it would be developed on an infill site.

In summary, the proposed project promotes a pedestrian experience for residents and visitors that facilitates non-vehicular travel, consistent with SB 375 and SANDAG's Regional Plan.

Scoping Plan

Under the Scoping Plan, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., low-carbon fuel standard), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 5.7-7 highlights the proposed project's consistency with applicable Scoping Plan measures. As can be seen below, the proposed project would be consistent with the applicable strategies and measures in the Scoping Plan.

Table 5.7-7. Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Project Consistency
Advanced Clean Cars	Consistent. The proposed project's residents would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low Carbon Fuel Standard	Consistent. Motor vehicles driven by the proposed project's residents would use compliant fuels.
Regional Transportation-Related GHG Targets	Consistent. The proposed project would encourage the use of alternative forms of transportation.
Reduction in VMT	Consistent. The proposed project is located on an infill site, which promotes compact walkable communities with an emphasis on proximity and accessibility. The proposed project is located near public transit stops (NCTD bus routes), bike lanes, and sidewalks.
Energy Efficiency Measures (Electricity and Natural Gas)	Consistent. The proposed project would comply with current Title 24, Part 6, of the CCR energy efficiency standards for electrical appliances and other devices at the time of building construction.
RPS	Consistent. The proposed project would use energy supplied by SDG&E, which is in compliance with the RPS.
SB 1 Million Solar Roofs	Consistent. The proposed project would include solar roofs installation.
Water Use Efficiency	Consistent. The proposed project would utilize water saving features including low-flow fixtures and non-potable water for landscape irrigation.
Mandatory Commercial Recycling	Consistent. During both construction and operation, the proposed project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all wastes would be recycled to the maximum extent possible. Refer to Section 5.15, Utilities and Service Systems, of this EIR for additional discussion.

Source: Appendix B of this EIR

Notes:

CARB=California Air Resources Board; CCR=California Code of Regulations; EIR=environmental impact report; GHG=greenhouse gas; NCTD=North County Transit District; RPS=Renewable Portfolio Standard; SB=Senate Bill; SDG&E=San Diego Gas and Electric; VMT=vehicle miles traveled

Conclusion

The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Rather, the proposed project is consistent with many of the sustainable communities' strategies for land use development that encourage alternative modes of transportation and walkability. Further, the proposed project is consistent with the city's CAP because it implements all applicable and feasible GHG reduction measures identified in the Checklist. The proposed project's impact is less than significant.

5.7.4 Level of Significance before Mitigation

Implementation of the proposed project would not result in a significant impact on GHG/climate change; therefore, no mitigation measures are proposed.

5.7.5 Environmental Mitigation Measures

No mitigation measures are proposed.

5.7.6 Level of Significance after Mitigation

No significant impacts on GHG/climate change has been identified.

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5.8 Hazards and Hazardous Materials

This section describes potential hazards related to hazardous materials, airports, and wildfires, and also includes information about emergency preparedness in Carlsbad. The hazardous materials information provided in this section is summarized from the *Phase I Environmental Site Assessment and Shallow Soil Sampling* (Stantec Consulting Services Inc. [Stantec] 2018) (Appendix F of this EIR). In addition, reviews of the *McClellan–Palomar Airport Land Use Compatibility Plan* and *Carlsbad General Plan* were performed.

5.8.1 Existing Conditions

The project site consists of approximately 20 acres of land developed with a palm tree farm, pottery store, multi-tenant retail building with a restaurant, multiple out-buildings used for storage, and a single-family home. Surrounding properties are primarily residential.

Phase I Environmental Site Assessment

A Phase I environmental site assessment (ESA) was conducted on the project site to review, evaluate, and document present and past land uses and practices, and visually examine site conditions in order to identify recognized environmental conditions (REC). A summary of the Phase I ESA is provided below.

Environmental Data Search

A review of reasonably ascertainable environmental regulatory agency databases was conducted to identify known or suspected environmental concerns or RECs that may be associated with the project site. A search of readily available environmental records was obtained from Environmental Data Resources, Inc. (EDR). The purpose of the regulatory database report review was to evaluate to the extent possible whether prior activities, processes, operations, or actions on the project site, adjoining properties, and nearby locations have the potential to adversely impact the environmental integrity of the project site, are suspected sources of environmental contamination, or present RECs for the project site. The regulatory database report includes information from federal, state, local, military, and tribal environmental regulatory agency databases.

Listings for Project Site

The project site was listed in the San Diego County Hazardous Material Management Database, EDR Exclusive Historic Dry Cleaners, and Pesticide Regulation Licenses Listing environmental databases. According to the seller of the property, a dry cleaner was in the process of negotiating a potential lease but never occupied the property. Given there is no additional information provided by EDR and there are no records at the City of Carlsbad Building Department, the listing for the EDR Exclusive Historic Dry Cleaners is considered unlikely to represent an environmental concern to the project site.

The listings for the project site in the San Diego County Hazardous Material Management Database and Pesticide Regulation Licenses Listing environmental databases are regarding the handling of regulated hazardous materials (including pesticides). No additional information or notices of violations were provided by EDR.

Listings for Nearby Sites with Potential to Impact Project Site

Based on a review of the spills, leaks, investigations, and cleanup (SLIC), as provided by EDR, there is one SLIC site located approximately 0.5 mile north of the project site. Rancho Costera, located at 4980 El Camino Real, is a 201-acre facility listed in the Voluntary Assistance Program for the proposed redevelopment of the land into single-family, multi-family, commercial and open space. According to the Property Mitigation Plan (PMP) dated October 10, 2011, the facility was used between circa 1928 and 2011 for agricultural use (tomatoes, beans, squash, strawberries, flowers, etc.). Shallow soil sampling (upper 6-inches below grade) was performed on the facility and identified concentrations of toxaphene above the California Human Health Screening Level of 460 micrograms per kilogram (ug/kg). The maximum detected concentration of toxaphene was 2,000 ug/kg. Other pesticides were detected on the facility but were below the residential CHHSLs. Given the contaminants of concern are pesticides, the Rancho Costera facility is considered unlikely to represent an environmental concern to the project site.

The remaining listings in the environmental database search report do not constitute a REC for the project site.

Site Reconnaissance

A site reconnaissance was conducted on September 23, 2015 to observe the present project site use and conditions as they relate to the possible presence of RECs. In addition, adjoining properties were visually observed from the project site and adjacent public roads to identify land uses and the potential presence of structures, operations, activities, or environmental conditions that may involve the use, treatment, storage, disposal, or generation of hazardous wastes and/or petroleum products that may pose an environmental concern to the site.

Hazardous Substances and Petroleum Products

The project site was observed to be currently occupied with a palm tree farm, a pottery store, a multi-tenant retail building with a restaurant, multiple-out buildings used for storage of pesticides, and a single-family home. Table 5.8-1 summarizes the hazardous substances and petroleum products observed during the site reconnaissance.

Table 5.8-1. Hazardous Substances and Petroleum Products Observed During Site Reconnaissance

Observations	Description/Location
Hazardous Substances and Petroleum Products as Defined by CERCLA 42 U.S.C. § 9601(14)	A brick storage was observed that contained less than 5-gallon containers of paint. A shipping container was observed that contained pesticides, seeds, and tools used by the palm tree farm.
Drums (≥ 5 gallons)	None observed.
Strong, Pungent, or Noxious Odors	None detected.
Pools of Liquid	None observed.
Unidentified Substance Containers	None observed.
PCB-Containing Equipment	Pole mounted transformers were observed along El Camino Real. Given no indication of leaks or staining were observed, the pole mounted transformers do not represent an environmental condition to the project site.
Other Observed Evidence of Hazardous Substances or Petroleum Product	Not observed.

Source: Stantec 2018 (Appendix F of this EIR)

Notes:

CERCLA=Comprehensive Environmental Response, Compensation, and Liability Act; PCB= polychlorinated biphenyls;
U.S.C.=United States Code

Interior Observations

The site reconnaissance included the visual observation of accessible interior areas expected to be used by occupants or the public, maintenance and repair areas, and utility areas. The restaurant in the multi-tenant retail building along El Camino Real was observed to have a grease trap. Assuming the grease trap is properly maintained, it is unlikely to represent an environmental condition to the project site. No surface stains or corrosion, floor drains, or sumps were observed in interior areas.

Exterior Observations

The residential structure was observed to have a septic tank associated with it. According to the Phase I ESA, the septic tank does not represent a REC. Three cell towers and three cell tower buildings were observed in the central portion of the project site.

Underground Storage Tanks/Structures

No visible evidence (fill pipes, vent pipes, dispensers, surface patches), which would indicate the presence of underground storage tanks (UST), was discovered during the site reconnaissance. Also, no evidence, reports, or other evidence of the former presence of USTs, was discovered during the Phase I ESA.

Aboveground Storage Tanks

No visible evidence (fill pipes, vent pipes, dispensers, surface stains), reports, or other evidence of present or former aboveground storage tanks was discovered during the Phase I ESA.

Limited Soil Testing

A portion of the project site is currently occupied by a palm tree farm and has pesticide storage on the southern portion. Use for agricultural purposes can be a potential concern due to the possible use of pesticides and heavy metals containing herbicides. In order to determine whether the agricultural use of the project site in fact represented a REC, shallow soil samples were collected for laboratory analysis of organochlorine pesticides, arsenic, and total lead.

On September 23, 2015, 20 borings were taken at the project site using a hand auger. No staining or odors were observed in any of the boreholes. Soil samples collected at a depth of 0.5 to 1 foot below ground surface from the borings were submitted to a certified analytical laboratory for analysis of organochlorine pesticides by EPA Method 8081A and total arsenic and lead by EPA Method 6010B. The following summarizes the main findings:

- 4,4-dichlorodiphenyldichloroethylene (4,4-DDE) was detected above laboratory reporting limits in 4 of the 20 soil samples with concentrations ranges between 0.0065 and 0.027 milligrams per kilogram (mg/kg)
- 4,4-dichlorodiphenyltrichloroethane (4,4-DDT) was detected in 2 of the 20 soil samples (HA-3-1 and HA-5-1) with concentrations of 0.037 and 0.0057mg/kg.
- Chlordane was detected in one soil sample (HA-5-1) at a concentration of 0.082 mg/kg.

None of the detections, however, were above the United States Regional Screening Levels (RSL) for residential uses. Cumulative concentrations of organochlorine pesticides compounds were reported at a maximum of 0.146 mg/kg in HA-5-1. Therefore, cumulative concentrations of the combined 4,4-DDT, 4,4-DDE, and 4,4-DDD pesticides compounds are below the California hazardous waste level of 1.0 mg/kg, therefore not considered a potential hazardous waste.

- Arsenic was reported above residential RSLs in all 17 of the 20 shallow soil samples collected at concentrations ranging from 3.0 to 7.2 mg/kg. Arsenic occurs naturally in California at levels exceeding the RSL of 0.68 mg/kg.

The reported concentrations are within the range of naturally-occurring expected background levels for arsenic in California.

- Lead was reported in all 20 shallow soil samples at concentrations ranging from 3.1 mg/kg to 34 mg/kg and well below the residential RSL of 400 mg/kg and within the naturally occurring background level of 12.4 to 91.7 mg/kg.

Based on the above results, the agricultural use of the project site does not represent a REC or a human health risk in light of the contemplated residential use of the project site.

Asbestos-Containing Materials and Lead Based Paint

Asbestos was used extensively from the 1940s until the late 1970s. Although asbestos is usually safe when it is undisturbed and the ACM are in good condition, once disturbed (such as during remodeling or demolition) the fibers can become airborne. The EPA has determined that there is no safe exposure level to asbestos. Given the age of the existing structures on the project site (constructed circa 1950), ACMs are likely to be present at the project site.

Lead is a highly toxic metal that was used until 1978 in paint and other products found in and around residences. Lead may cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. LBP has been banned since 1978, but many older structures still have this paint on walls, woodwork, siding, windows, and doors. Due to the age of the structures on the project site (constructed circa 1950), LBP is likely to be present at the project site.

McClellan-Palomar Airport

The project site is located approximately 2.05 miles northeast of the McClellan-Palomar Airport. Based on a review of Exhibit III-2 - Compatibility Policy Map: Safety of the McClellan-Palomar ALUCP, the project site is not located within any airport safety zones as designated in the ALUCP (San Diego County Regional Airport Authority 2011). The project site is not located within the airport's Runway Protection Zone or approach/departure zone as designated in the ALUCP.

Emergency Response Plan

The city's Emergency Operations Plan (EOP) defines the scope of the city's emergency preparedness and incident response activities. In general, the EOP establishes emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the various emergency staff and service elements utilizing the Standardized Emergency Management System, published by the California Office of Emergency Services (OES), and the National Incident Management System, published by the Federal Emergency Management Agency (FEMA). The EOP identifies the city's Emergency Operations Center (EOC) as the location from which centralized emergency management would be performed during a major emergency or disaster, including receiving and disseminating information, maintaining contact with other EOCs, and providing instructions to the public.

Fire Hazard

According to Figure 6-10: Structure Fire/Wildlife Threat of the Public Safety Element of the Carlsbad General Plan, the project site is located in a High and Moderate Fire Hazard Severity Zone (City of Carlsbad 2015a).

5.8.2 Regulatory Setting

Federal

Environmental Protection Agency

The United States Environmental Protection Agency (USEPA) enforces the Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA), which regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes (controlling hazardous waste from the time it is generated until its ultimate disposal). The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the HSWA.

The 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

United States Department of Transportation

Transportation of chemicals and hazardous materials are governed by the United States Department of Transportation (DOT), which stipulates the types of containers, labeling, and other restrictions to be used in the movement of such materials on interstate highways.

State

California Code of Regulations Title 22

Hazardous substances are regulated by state and federal agencies in order to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that threaten life, health, property, or environment. The CCR Title 22 provides the following definition:

“...A substance or combination of substances which because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or, (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed” (CCR, Title 22, Section 66260.10).

California Environmental Protection Agency

The management of hazardous materials and waste within California is under the jurisdiction of the California Environmental Protection Agency (Cal EPA). Cal EPA is responsible for developing, implementing, and enforcing the state's environmental protection laws that ensure clean air, clean water, clean soil, safe pesticides and waste recycling and reduction.

California Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) implements California Code of Regulations Title 22, Division 4.5, which provides standards for the management of hazardous waste. The DTSC has the authority to delegate enforcement of the state's hazardous waste regulations to local jurisdictions.

California Department of Transportation

Caltrans manages more than 50,000 miles of California's highway and freeway lanes, provides inter-city rail services, permits more than 400 public-use airports and special-use hospital heliports and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on those highway and freeway lanes and inter-city rail services.

California Fire Code (California Code of Regulations Title 24, Part 9)

The California Fire Code combines the Uniform Fire Code (UFC) with amendments necessary to address California's unique needs. The CBC includes regulations which are consistent with nationally recognized standards of good practice, intended to facilitate protection of life and property. Among

other things, its regulations address the mitigation of the hazards of fire explosion, management and control of the storage, handling and use of hazardous materials and devices, mitigation of conditions considered hazardous to life or property in the use or occupancy of buildings, and provisions to assist emergency response personnel.

Local

San Diego County Multi-Jurisdictional Hazard Mitigation

Long-term prevention, mitigation efforts, and risk-based preparedness related to specific hazards within the city are addressed in the 2010 San Diego County Multi-Jurisdictional Hazard Mitigation Plan (HAZMIT Plan). The HAZMIT Plan identifies specific risks for San Diego County and provides methods to help minimize damage caused by natural and manmade disasters. The final list of hazards profiled for San Diego County was determined as wildfire/ structure fire, flood, coastal storms/erosion/tsunami, earthquake/liquefaction, rain-induced landslide, dam failure, hazardous materials incidents, nuclear materials release, and terrorism. Currently, the city is in the process of updating its mitigation strategies and action programs within the HAZMIT Plan. The County of San Diego Office of Emergency Services is responsible for coordinating with local jurisdictions and participating agencies to monitor, evaluate, and update the HAZMIT Plan as necessary.

McClellan-Palomar Airport Land Use Compatibility Plan

The McClellan-Palomar ALUCP is prepared by the San Diego County Regional Airport Authority to protect the safety of the public from airport related hazards. The ALUCP promotes compatibility between McClellan-Palomar Airport and the land uses that surround it by addressing noise, overflight, safety, and airspace protection concerns. The ALUCP prevents exposure to excessive noise and safety hazards within the AIA, provides for the orderly growth of the airport and the area surrounding the airport, and safeguards the general welfare of the inhabitants within the vicinity of the airport and the public in general.

Fire Prevention Code (Carlsbad Municipal Code Title 17)

The purpose of the Fire Prevention Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations. This code incorporates by reference the California Fire Code, which is developed and updated every 3 years by the California Building Standards Commission. The city's Fire Prevention Code also incorporates a number of local amendments necessary to respond to local climatic, geographical, or topographic conditions.

5.8.3 Project Impacts

Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts with regards to hazards and hazardous materials would be considered significant if the proposed project was determined to:

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

- 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
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- 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 create a significant hazard to the public or the environment
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area
- For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent or urbanized areas or where residences are intermixed with wildlands

Impact Analysis

Impact 5.8-1 Routine Transport, Use, or Disposal of Hazardous Materials

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

The proposed project includes the development residential and commercial uses. Construction, fueling, and servicing of construction equipment may involve the use of hazardous materials and wastes, including the transport, storage, and disposal of commercially available hazardous materials such as gasoline, brake fluids, coolants, and paints. The handling of such materials would occur during short-term construction activities and would be subject to federal, state, and local health and safety requirements.

The proposed project would also involve transport, use, and disposal of hazardous materials associated with routine commercial cleaning and maintenance for the restaurant, and retail buildings. However, the transport, use, and disposal of these materials would be handled in compliance with all applicable laws and regulations and would not create a significant hazard to the public or the environment. Furthermore, these materials would not be used in quantities such that they would pose an environmental risk. The impact associated with routine use or disposal of the hazardous materials that may be used on the project site is considered less than significant.

Impact 5.8-2 Release of Hazardous Materials into the Environment

Would the proposed 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?

Pesticides

As previously discussed under Section 5.8.1 above, shallow soil samples were collected for laboratory analysis to determine whether the agricultural use of the project site represents a REC or a human health risk. The cumulative concentrations of the combined 4,4-DDT, 4,4-DDE, and 4,4-DDD pesticides compounds are below the California hazardous waste level of 1.0 mg/kg, therefore not considered a potential hazardous waste.

The reported concentrations of arsenic are within the range of naturally-occurring expected background levels for arsenic in California.

Lead was reported in all 20 shallow soil samples at concentrations ranging from 3.1 mg/kg to 34 mg/kg and well below the residential RSL of 400 mg/kg and within the naturally occurring background level of 12.4 to 91.7 mg/kg.

Based upon the soil analytical results, the agricultural use of the project site does not represent a REC or a human health risk in light of the contemplated residential use of the project site. Therefore, implementation of the proposed project would not 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. This is considered a less than significant impact.

Asbestos-Containing Materials and Lead Based Paint

Given the age of the existing structures on the project site (constructed circa 1950), ACMs and LBP are likely to be present at the project site. The potential presence of ACMs and LBP on the project site is a significant impact to the public and environment, specifically when existing structures are demolished as part of the proposed project. Construction and demolition workers can be exposed to lead contamination by cutting, scraping, sanding, heating, burning, or blasting LBP from building components. Asbestos was used extensively from the 1940s until the late 1970s. Although asbestos is usually safe when it is undisturbed and the ACMs are in good condition, once disturbed (such as during remodeling or demolition) the fibers can become airborne. The EPA has determined that there is no safe exposure level to asbestos. Therefore, the proposed project has the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of ACMs and LBP into the environment. Implementation of Mitigation Measure HAZ-1 would reduce this potentially significant impact to a level less than significant.

Impact 5.8-3 Hazards in Proximity to Schools

Would the proposed project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Kelly Elementary School is located approximately 0.15 miles southwest of the project site. The proposed project is not anticipated to result in a significant hazard to the school because all storage,

handling, transport, and emission and disposal of hazardous substances associated with project construction will be in full compliance with local, state, and federal regulations. Furthermore, these materials would not be used in quantities for development of the site such that they would pose an environmental risk. Proposed project land uses (residential and commercial) do not represent a hazard as they will not utilize hazardous materials in quantities that would pose a significant risk. The impact associated with use of hazardous materials within 0.25 mile of a school is considered less than significant.

Impact 5.8-4 Included on a List of Hazardous Materials Sites

Would the proposed 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 create a significant hazard to the public or the environment?

As previously indicated in Section 5.8.1, the proposed project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the proposed project would not create a significant hazard to the public or the environment and no impact would occur.

Impact 5.8-5 Hazards due to Proximity to Public Airport

Would the proposed project be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the study area?

Based on a review of Exhibit III-2 - Compatibility Policy Map: Safety of the McClellan-Palomar ALUCP, the project site is not located within any airport safety zones as designated in the ALUCP (San Diego County Regional Airport Authority 2011). Furthermore, the project site is not located within the airport's Runway Protection Zone or approach/departure zone as designated in the ALUCP. Therefore, no impact associated with potential hazards from McClellan-Palomar Airport is anticipated.

Impact 5.8-6 Hazards due to Proximity to Private Airstrip

Would the proposed project be located within the vicinity of a private airstrip, and result in a safety hazard for people residing or working in the study area?

The project site is not located within 2 miles of a private airstrip. Therefore, the proposed project would not result in a safety hazard for people residing or working in the project area and no impact would occur.

Impact 5.8-7 Emergency Response Plan

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

The proposed project is located along El Camino Real, which is designated as an emergency access or emergency evacuation route under the city's Emergency Plan. Access to the project site is proposed via two existing right-in/right-out driveways to El Camino Real. The site plan, as proposed, permits an emergency vehicle to proceed straight through the property without backing up. Additionally, should one access point be impassible due to a traffic accident or other incident, the secondary access

location would still be available to residents. All project circulation improvements will be designed and constructed to city standards.

The City of Carlsbad Fire Department would provide all basic fire and emergency medical services to the project site. The nearest fire station, Fire Station 3 (3465 Trail Blazer Way), is located immediately northeast of the project site on the north side of El Camino Real. The Fire Department also has agreements with other agencies, such as the County of San Diego, to provide additional services including hazardous materials incident response. In the event of a large incident, the City of Carlsbad will activate their EOC and provide details to residents and businesses (i.e., evacuation shelter locations), and the status of the incident on their “Current Incident” web page. Based on these considerations, the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and this is considered a less than significant impact.

Impact 5.8-8 Wildfires

Would the proposed project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent or urbanized areas or where residences are intermixed with wildlands?

The project site is not located within a State Responsibility Area classified as very high fire hazard severity zone (California Department of Forestry and Fire Protection). According to Figure 6-10: Structure Fire/Wildlife Threat of the Public Safety Element of the Carlsbad General Plan, the project site is located in a High and Moderate Fire Hazard Severity Zone (City of Carlsbad 2015a). However, the project site is not located in an area surrounded by extensive expanses of wildlands and rugged topography. To the east, north, and south, the site is surrounded by existing developed neighborhoods and roadways. Immediately to the west of the project site, the site is bordered by the Agua Hedionda Creek. In accordance with the City of Carlsbad Landscape Manual and the fire department requirements, a Conceptual Fire Protection Plan will be required for the appropriate areas that interface with open space, and specific Fire Policies and Fire Protection Requirements will be required as site plan and landscaping plan review and approval by the Fire Department. This would include, if applicable, fuel modification zones where the proposed project would interface with open space areas. Adherence to city fire protection requirements would ensure that the potential wildland fire potential is reduced to a level less than significant.

5.8.4 Level of Significance before Mitigation

The proposed project has the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of ACMs and LBP into the environment.

5.8.5 Environmental Mitigation Measures

HAZ-1 Hazardous Materials Assessment. Prior to the issuance of a demolition permit, a Hazardous Materials Assessment (surveys) would be performed to determine the presence or absence of ACMs/LBP located in the buildings to be demolished. Suspect materials that would be disturbed by the demolition activities would be sampled and analyzed for asbestos content, or assumed to be asbestos containing. All lead containing

materials and asbestos containing materials scheduled for demolition must comply with applicable regulations for demolition methods and dust suppression. Lead containing materials and asbestos containing materials shall be managed in accordance with applicable regulations. The ACM survey would be conducted by a person certified by the California Division of Occupational Safety and Health. The LBP survey would be conducted by a person certified by the California Department of Health Services. Copies of the surveys would be provided to the County of San Diego Department of Environmental Health and San Diego Air Pollution Control District once completed.

5.8.6 Level of Significance after Mitigation

Implementation of Mitigation Measure HAZ-1 would reduce the impacts on hazards/hazardous materials to a level less than significant.

5.9 Hydrology and Water Quality

This section provides an evaluation of the proposed project's impacts to hydrology and water quality within the project site and vicinity. Information contained in this section is summarized from the following documents:

- *Preliminary Drainage Report for Marja Acres* (Howes Weiler & Associates 2019) (Appendix G of this EIR)
- *Preliminary Storm Water Quality Management Plan for Marja Acres* (Howes Weiler & Associates 2019) (Appendix H of this EIR)

The technical appendices are included on the attached CD found on the back cover of this EIR. Additional background information was also obtained from the *Carlsbad General Plan* (City of Carlsbad 2015a).

5.9.1 Existing Conditions

Regional Hydrology

According to the San Diego Hydrologic Basin Planning Area Map, Region 9 of the RWQCB, the project site is within the Carlsbad Hydrologic Unit (HU 904.00). The Carlsbad HU is a roughly triangular shaped area of approximately 210 square miles, and extends from east of Lake Wohlford to Solana Beach-Carlsbad along the coast. The Carlsbad HU is divided into a number of hydrologic areas and subareas based on local drainage characteristics. Drainage within the Carlsbad HU is provided by a number of small to moderate size streams, including Buena Vista, Agua Hedionda, San Marcos, and Escondido Creeks.

Drainage

As shown on Figure 5.9-1, under existing conditions, on-site stormwater drains towards the west of the project site with two discharge locations on the westerly property line. The first discharge point is located approximately 200 feet north of the southwesterly property corner which conveys roughly 25 percent of the site flow via surface flow through a natural low point. The second point is approximately 350 feet south of the northwesterly property corner with flows going through an existing on-site storm drain conveyance system that conveys on-site storm water to an off-site storm drain channel that collects storm water from several upstream and downstream properties. Flows from both discharge points ultimately enter Agua Hedionda Creek.

Flooding

Floodplains are areas of land located adjacent to rivers or streams that are subject to recurring inundation, or flooding. Floods are typically described in terms of their statistical frequency. For example, a 100-year floodplain describes an area within which there is a 1 percent probability of a flood occurring in any given year. FEMA prepares FIRMs that identify 100-year and 500-year flood zones. According to Figure 6-1: Potential Flood Hazards in the Public Safety Element of the General Plan, the project site is not located within a 100-year flood zone (City of Carlsbad 2015d).

Figure 5.9-1. Existing Drainage Flow



Source: Appendix G of this EIR

Groundwater

Groundwater consists of water within underground aquifers that is recharged from the land surface. The rate of groundwater recharge is affected by the permeability of the ground surface. Carlsbad is located within the semi-arid San Diego region, which experiences a slow rate of groundwater recharge by rainfall. There are 27 groundwater basins in San Diego County, many of which are impaired by nitrate, sulfate, total dissolved solids, and other contaminants.

The Batiquitos Lagoon Valley Groundwater Basin is located within Carlsbad. This basin is identified as Basin 9-22 and consists of 741 acres. The basin is bounded on the northeast by impermeable crystalline rocks, on the west by Batiquitos Lagoon, and otherwise by semipermeable rocks on the La Jolla Formation. The average annual precipitation ranges from 7 to 15 inches within the basin area. The overall groundwater storage capacity and storage levels are currently unknown. The groundwater in this basin is not considered a good source of irrigation or municipal use due to the high content of chloride, sulfate, and total dissolved solids (California Department of Water Resources 2004).

Dam Inundation

Dam inundation is caused by the release of impounded water from structural failure or overtopping of a dam. The HAZMIT identifies dam failure risk levels based on dam inundation map data. There are four dams located within or adjacent to Carlsbad: Calavera, Maerkle, San Marcos, and Bressi. The Calavera, Maerkle, and San Marcos dams have been assigned high hazard ratings and have emergency action plans in place. The Bressi dam has a low hazard rating and also has an emergency action plan in place. These dams are periodically inspected by the State of California Division of Dam Safety. According to Figure 6-2: Dam Inundation Areas in the Public Safety Element of the General Plan, the project site is not located within a delineated dam inundation zone (City of Carlsbad 2015d).

Tsunamis and Seiche

Tsunamis are long wavelength ocean waves generated by sudden movements of the ocean bottom during events such as earthquakes, volcanic eruptions, or landslides. According to the Public Safety Element of the General Plan, the only areas identified within the city as having risk of tsunami run-up are the immediate vicinity of the Buena Vista, Agua Hedionda, and Batiquitos lagoons (City of Carlsbad 2015d). According to Figure 6-3: Maximum Tsunami Projected Runup in the Public Safety Element of the General Plan, the project site is not located in an area identified as having risk of tsunami run-up (City of Carlsbad 2015d).

Seiches are defined as wave-like oscillatory movements in enclosed or semi-enclosed bodies of water such as lakes or reservoirs. Potential effects from seiches include flooding damage and related hazards from spilling or sloshing water, as well as increased pressure on containment structures. The project site is not located near any lakes or confined bodies of water, and is therefore not at risk as a result of seiche.

5.9.2 Regulatory Setting

Federal

Clean Water Act

The USEPA is the lead federal agency responsible for managing water quality. The Clean Water Act (CWA) of 1972 is the primary federal law that governs and authorizes the USEPA and the states to implement activities to control water quality. The various elements of the CWA that address water quality and are applicable to the projects are discussed below.

Under federal law, the USEPA has published water quality regulations under Title 40 of the CFR. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question; and (2) criteria that protect the designated uses. Section 304(a) requires the USEPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. The USEPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The USEPA has delegated the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), which states that the SWRCB has the ultimate authority over State water rights and water quality policy.

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain a water quality certification from the SWRCB in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate.

CWA Section 402 establishes the NPDES permit program to control point source discharges from industrial, municipal, and other facilities if their discharges are directly to surface waters. The 1987 amendments to the CWA created a new section of the CWA devoted to regulating stormwater or nonpoint source discharges (Section 402[p]). In California, the EPA has delegated the SWRCB responsibility for issuing both general and individual permits for discharges from certain activities with the authority generally administered by the RWQCB.

Clean Water Act Section 303(d) Impaired Waters List

CWA Section 303(d) requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers. Section 303(d) requires states to develop a Total Maximum Daily Load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of loading that the water body can receive and still be in compliance with applicable water quality objectives and applied beneficial uses. TMDLs can also act as a planning framework for reducing loadings of a specific pollutant from various sources to achieve compliance with water quality objectives. TMDLs prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives.

Agua Hedionda Creek is listed as a 303(d) impaired water body for the following pollutants/stressors: enterococcus, fecal coliform, manganese, phosphorus, selenium, total nitrogen as N, TDS, and

aquatic toxicity. The following TMDLs have been identified for Agua Hedionda Creek: eutrophic and indicator bacteria (Appendix H of this EIR).

Antidegradation Policy

The federal Antidegradation Policy, established in 1968, is designed to protect existing uses, water quality, and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

The federal Antidegradation Policy would be applicable to the study area, which would include an on-site stormwater collection system that would be subject to the review and approval of the San Diego RWQCB.

Federal Emergency Management Agency

FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations that limit development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRM) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection covered by the FIRMs is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 (0.01) annual exceedance probability [AEP]) (i.e., the 100-year flood event).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the SWRCB and San Diego RWQCB pertaining to the adoption of Water Quality Control Plans and establishment of water quality objectives. Unlike the federal CWA, which regulates only surface water, the Porter-Cologne Act relates surface water, groundwater, and discharges to land.

National Pollutant Discharge Elimination System Construction Permits

Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit, NPDES Order No.2012-0006-DWQ) which covers stormwater runoff requirements for projects where the total amount of ground disturbance during construction exceeds 1 acre.

Coverage under a General Construction Permit requires the preparation of a SWPPP and submittal of a Notice of Intent (NOI) to the RWQCB to comply with the General Construction Permit.

The SWPPP is required to include a description of BMPs to minimize the discharge of pollutants from the sites during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storage of materials and equipment to ensure that spills or leaks cannot enter the storm drain system or stormwater, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical post-construction management practices include street sweeping and cleaning stormwater drain inlet structures.

The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit. The proposed project would exceed the 1 acre threshold and, therefore, would be subject to the requirements of the General Construction Permit.

California Toxics Rule

Under the California Toxics Rule (CTR), the EPA has proposed water quality criteria for priority toxic pollutants for inland surface waters, enclosed bays, and estuaries. These federally promulgated criteria create water quality standards for California waters. The CTR satisfies CWA requirements and protects public health and the environment. The EPA and the SWRCB have the authority to enforce these standards, which are incorporated into the NPDES permits that regulate the point discharges in the study area.

Regional

San Diego Regional Water Quality Control Board Basin Plan

The San Diego RWQCB Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all region waters. Each of the nine regional boards in California is required to adopt a Basin Plan, which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's ground and surface waters, and local water quality conditions and problems. Specifically, the Basin Plan:

- Designates beneficial uses for surface and ground waters;
- Sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy;
- Describes implementation programs to protect the beneficial uses of all waters in the region;
- Describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.

Beneficial uses of surface water and groundwater have been established for each water body within the San Diego Basin. According to the RWQCB Basin Plan:

- Beneficial uses are defined as the uses of water necessary for the survival or well-being of man, plants, and wildlife. The uses of water serve to promote the tangible and intangible economic, social, and environmental goals of mankind.
- Examples include the drinking, swimming, industrial, and agricultural water supply, and the support of fresh and saline aquatic habitats. According to the Basin Plan, beneficial uses have been designated for specific coastal water bodies, inland surface waters, and groundwater.

In 1972, the SWRCB adopted a uniform list and description of beneficial uses to be applied throughout all hydrological basins of the State. Water bodies that have beneficial uses that may be affected by construction activity and post-construction activity include Agua Hedionda Creek and Agua Hedionda Lagoon.

Table 5.9-1 identifies the designated beneficial uses for Agua Hedionda Creek and Agua Hedionda Lagoon.

The following are definitions of the applicable beneficial uses:

- **Municipal and Domestic Supply (MUN)** – Includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
- **Agricultural Supply (AGR)** – Includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
- **Industrial Service Supply (IND)** – Includes uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.
- **Contact Water Recreation (REC-1)** – Includes uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural springs.
- **Non-Contact Water Recreation (REC-2)** – Includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- **Commercial and Sport Fishing (COMM)** – Includes the uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.
- **Aquaculture (AQUA)** – Includes the uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.

- **Preservation of Biological Habitats of Special Significance (BIOL)** – Includes uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance, where the preservation or enhancement of natural resources requires special protection.
- **Estuarine Habitat (EST)** – Includes uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).
- **Warm Freshwater Habitat (WARM)** – Includes uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
- **Wildlife Habitat (WILD)** – Includes uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
- **Rare, Threatened, or Endangered Species (RARE)** – Includes uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.
- **Marine Habitat (MAR)** – Includes uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).
- **Migration of Aquatic Organisms (MIGR)** – Includes uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.
- **Spawning, Reproduction, and/or Early Development (SPWN)** – Includes uses of water that support high quality habitats suitable for reproduction, early development, and sustenance of marine fish and/or cold freshwater fish.
- **Shellfish Harvesting (SHELL)** – Includes uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sport purposes.

Table 5.9-1. Beneficial Uses of Project Affected Surface Water

Beneficial Uses	Agua Hedionda Creek	Agua Hedionda Lagoon
MUN	●	
AGR	●	
IND	●	●
REC1	●	●
REC2	●	●
COMM		●
BIOL	●	●
EST		●
WARM	●	
WILD	●	●
RARE		●
MAR		●
AQUA		●
MIGR		●
SPWN		●
SHELL		●

Source: San Diego RWQCB 2016

Regional General Municipal Stormwater Permit

The San Diego RWQCB has adopted an area-wide Municipal Stormwater Permit (Municipal Separate Storm Sewer Systems [MS4]), Order No. R9-2013-0001, NPDES No. CAS0109266, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, “Waste Discharge Requirements for Discharges from the MS4 Draining the Watersheds within the San Diego Region.”

Under this area-wide Municipal Stormwater Permit, municipalities are ultimately held responsible for everything in their stormwater conveyance systems, including industrial and construction stormwater runoff. Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, presents guideline requirements for the control of pollutants resulting from stormwater and urban runoff from all areas named in NPDES Permit No. CAS0109266.

The RWQCB specifically requires co-permittees to inventory existing stormwater pollution control programs, illicit discharge detection programs, monitor programs and data, stormwater conveyance system maps, land use maps, and existing laws, ordinances, and codes. The co-permittee (discharger) has the authority to implement and enforce stormwater management programs in their areas of jurisdiction and where necessary, and to promulgate the authority to carry out all functions of the stormwater management programs.

The municipal stormwater permit requires co-permittees to utilize planning procedures including a master plan to develop, implement, and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. This new permit addresses controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. With respect to land use planning

for new development and redevelopment, at a minimum, each co-permittee shall assess its general plan, modify development project approval processes, revise environmental review processes, and conduct education efforts focused on new development and redevelopment to minimize the short and long-term impacts on receiving water quality.

Local

San Diego Region

The San Diego Regional Water Board Order R9-2007-001, Provision D.1.g requires the San Diego Stormwater Copermitees to implement a HMP to manage increases in run-off discharge rates and durations from all Priority Development Projects, where such increases are likely to cause increased erosion of channel beds and banks, sediment pollutant generation or other impacts to beneficial uses and stream habitat due to increased erosive force.

Hydromodification management implementation includes two components: protection of critical coarse sediment yield areas and flow control for post-project run-off from the project site. Chapter 6 of the Carlsbad BMP Manual provides guidance to meet the performance standards for the two components of hydromodification management. Based on the requirements of the Model BMP Design Manual San Diego Region (BMPDM), projects in Potential Critical Coarse Sediment Yield Area (PCCSYA) must determine whether or not un-lined receiving streams warrant preservation of on-site coarse sediment supply. The guidance for flow control of post-project run-off is based on the March 2011 Final HMP, with modifications provided in the Carlsbad BMP Manual based on the updated requirements in the MS4 Permit (the March 2011 Final HMP was prepared based on the 2007 MS4 Permit, not on the MS4 Permit that drives the Carlsbad BMP Manual). In instances where there are changes to hydromodification management criteria or procedures based on the MS4 permit, the criteria and procedures presented in Carlsbad BMP Manual supersede the March 2011 Final HMP.

A hydromodification analysis includes continuous simulation hydrologic models to compare the pre-project and mitigated post-project runoff peaks and durations (with hydromodification flow controls) until flow control standards are met. Integrated Management Practices (IMP) and extended detention facilities are required to meet peak flow and duration controls as follows:

1. For flow rates ranging from 10 percent, 30 percent or 50 percent of the pre- project 2- year runoff event ($0.1Q_2$, $0.3Q_2$, or $0.5Q_2$) to the pre-project 10-year runoff event (Q_{10}), the post-project discharge rates and durations shall not deviate above the pre-project rates and durations by more than 10 percent over and more than 10 percent of the length of the flow duration curve. The specific lower flow threshold will depend on results from the SCC\X1RP channel screening study and the critical flow calculator.
2. For flow rates ranging from the lower flow threshold to Q_5 , the post-project peak flows shall not exceed pre-project peak flows. For flow rates from Q_5 to Q_{10} , post-project peak flows may exceed pre-project flows by up to 10 percent for a 1-year frequency interval. For example, post-project flows could exceed pre-project flows by up to 10 percent for the interval from Q_9 to Q_{10} or from $Q_{5.5}$ to $Q_{6.5}$, but not from Q_8 to Q_{10} .

The thresholds are based on a percentage of the pre-project 2-year flow (Q_2), i.e., $0.1Q_2$ (low), $0.3Q_2$ (medium), or $0.5Q_2$ (high). A threshold of $0.1Q_2$ represents a downstream receiving conveyance system with a high susceptibility to erosion. This is the default value used for hydromodification analyses and will result in the most conservative (greatest) on-site facility sizing. A threshold of $0.3Q_2$ or $0.5Q_2$ represents downstream receiving conveyance systems with a medium or low susceptibility to

erosion, respectively. In order to qualify for a medium or low susceptibility rating, a project must perform a channel screening analysis based on a “hydromodification screening tool” procedure developed by the Southern California Coastal Water Research Project (SCCWRP). The SCCWRP results are compared with the critical shear stress calculator results from the County of San Diego’s BMP Sizing Calculator to establish the appropriate susceptibility threshold of low, medium, or high.

It was determined that the downstream receiving channel has a low susceptibility to erosion in accordance with the requirements set in place by the San Diego RWQCB. Therefore, the site must meet a Hydromodification low flow threshold of 50 percent of the 2-year event (0.5Q₂).

Carlsbad SWPPP Manual

The Construction SWPPP standards and requirements (City of Carlsbad 2016b) were established to ensure construction compliance with the City of Carlsbad Storm Water Ordinance and the Municipal Permit, as issued by the San Diego RWQCB.

The water quality protection measures and construction procedures described in the SWPPP Manual are intended to ensure construction activity compliance with the following State and Regional water quality permits:

- **Municipal Permit** - more particularly described as San Diego RWQCB San Diego Region Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100; NPDES No. CAS0109266 and Waste Discharge Requirements for Discharges from the MS4s Draining the Watersheds within San Diego Region and any amendment, revision or re-issuance thereof.
- **Construction General Permit (CGP)** - more particularly described as NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ amended by 2010-0014 and 2012-0006-DWQ NPDES No. CAS000002, adopted by the State Water Resources Control Board on July 17, 2012 and any amendment, revision or re-issuance thereof.

Every construction activity within Carlsbad that has the potential to negatively affect water quality must prepare a construction SWPPP. A SWPPP provides for temporary measures to control sediment and other pollutants during construction as required by the most recent statewide permit regulating construction activities. The SWPPP requirements in the SWPPP Manual ensure compliance with the City of Carlsbad Storm Water Ordinance and the Municipal Permit.

Carlsbad Best Management Practice Design Manual

In May 2013, the California RWQCB for the San Diego Region reissued a municipal storm water, NPDES permit (MS4 Permit) that covered its region. The San Diego Region is comprised of San Diego, Orange, and Riverside County Co-permittees. The MS4 Permit reissuance to the San Diego County Copermittees went into effect in 2013 (Order No. R9-2013-0001).

The reissued MS4 Permit updates and expands storm water requirements for new developments and redevelopments. In February 2015, the MS4 Permit was amended by Order R9-2015-0001, and again in November 2015 by Order R9-2015-0100. As required by the reissued MS4 Permit, the Copermittees have prepared this Model BMPDM to replace the current Countywide Model SUSMP, dated March 25, 2011, which was based on the requirements of the 2007 MS4 Permit. The effective date of the BMPDM is February 16, 2016.

This BMPDM addresses updated onsite post-construction storm water requirements for Standard Projects and Priority Development Projects, and provides updated procedures for planning, preliminary design, selection, and design of permanent storm water BMPs based on the performance standards presented in the MS4 Permit (City of Carlsbad 2016b).

5.9.3 Project Impacts

Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts with regards to hydrology and water quality would be considered significant if the proposed project was determined to:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage system or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, FIRM or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk or loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Inundation by seiche, tsunami, or mudflow.

Impact Analysis

Impact 5.9-1 Violation of Water Quality Standards

Would the proposed project violate any water quality standards or waste discharge requirements?

Construction Impacts

Potential water quality impacts are associated predominantly with short-term construction activities including grading and excavation. These activities could result in potential erosion/sedimentation and discharge of construction-related hazardous materials (e.g., fuels, grease, etc.) into local storm drains.

Mitigation Measure WQ-1 requires the applicant to prepare and submit for review and approval of the Carlsbad City Engineer a SWPPP to demonstrate that construction-related pollutants will be controlled. With implementation of construction BMPs (as outlined in the SWPPP) during construction, all runoff conveyed in the storm drain system will be treated in compliance with RWQCB regulations and NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit, NPDES Order No. 2012-0006-DWQ). The Regional General Construction Stormwater Permit must include:

- NOI;
- SWPPP; and
- Monitoring Program and Reporting Requirements.

Operational Impacts

Once constructed, the proposed uses (e.g., residential and commercial/retail) would likely generate certain pollutants commonly found in similar developments that could affect water quality downstream from the project site. The city's BMPDM identifies general pollutant categories that are anticipated or potential pollutants for general project categories. The anticipated pollutants that could be generated on the project site include: sediment, nutrients, heavy metals, organic compounds, trash and debris, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides.

As provided, with the inclusion of these uses, the proposed project has the potential to result in long-term impacts on water quality due to the addition of pollutants typical of urban runoff, including:

- Motor oil and fluids that leak from cars onto streets
- Oil, paint, or household cleaners dumped in gutters
- Soap and dirt from car washing
- Dirt and lawn clippings
- Litter and grime that collects on parking lots and sidewalks
- Bare soil that erodes and flows into the street
- Weed killers, fertilizers, and pesticides
- Animal wastes

In order to mitigate any potential water quality impacts as a result of runoff, all runoff from developed planning areas is required to be treated prior to draining into downstream waterbodies, such as Agua Hedionda Creek.

San Diego Region Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, sets waste discharge requirements for discharges of urban runoff from MS4s draining the watersheds of San Diego County. The County MS4 Permit in which the city is a co-permittee requires the incorporation of post-construction BMPs into the proposed project to the maximum extent practicable.

Mitigation Measure WQ-2 requires the developer to prepare a Storm Water Quality Management Plan (SWQMP) and submit grading and improvements plans that demonstrate that pollutants will be controlled through compliance with the City of Carlsbad BMPDM. As described below, the proposed project will be required to incorporate LID site design, source control, pollutant control, and

hydromodification management BMPs in appropriate locations to protect downstream waterbodies in compliance with the BMPDM, the city's MS4 Permit and the State's General Construction Permit.

The MS4 Permit requires that each co-permittee implement a program that requires and confirms structural BMPs on all PDPs are designed, constructed, and maintained to remove pollutants in storm water to the maximum extent practicable. To ensure this effort, the city performs reviews at each design stage (concept, design, construction, and as-built). At concept stage (discretionary review) staff reviews site plans and/or tentative maps to evaluate applicability of storm water standards. Also at discretionary review, city staff reviews preliminary SWQMPs to determine if the proposed project satisfies applicable storm water requirements.

During final design, staff reviews construction drawings and evaluates and confirms applicability of storm water standards. As part of staff review and plan check, design drawings are required to show locations of structural BMPs. The SWQMP is also reviewed for consistency with the City of Carlsbad BMP Manual and the MS4 Permit. As with the review of any other technical document, the BMP selection and sizing is compared from the SWQMP to the construction drawings to ensure consistency. Plan check cycles continue until the construction plans and SWQMP are completed and approved.

During as-built and/or project completion but prior to occupancy, city inspection staff require the Engineer-of-Work to submit certification ensuring the structural BMP was installed per plan and SWQMP and is operational. During the pre-construction meeting and after project completion on an annual basis, the developer and project applicant are provided with a city memorandum notifying them of these requirements. The BMP tables on the plans are used by city staff to add the BMPs to the city's GIS inventory. The city maintains an inventory of all structural BMPs installed since 2002. The inventory is used to track, inspect, and notify property owners of their responsibility to maintain the BMPs.

After construction, routine inspection and verification of BMPs' maintenance preserve the design and MS4 Permit objective to remove pollutants to the maximum extent practicable. The owner is responsible to ensure implementation and funding of maintenance of permanent BMPs and shall maintain records documenting the inspection and maintenance activities.

Integrated Low Impact Development Design Strategies

Based on the city's Storm Water Standards Questionnaire, the project is considered a "Priority Development Project" (see Appendix H of this EIR). Projects subject to Priority Development Project requirements, at a minimum, must implement an integrated LID approach to develop and size IMP or "Alternatives to LID Design," which requires how the proposed project satisfies each stormwater objective.

Based on the proposed project's geotechnical evaluation (Appendix E1 of this EIR), partial infiltration is infeasible to high probability of groundwater mounding which would potentially cause effects to proposed improvements and future adjacent improvements. Therefore, biofiltration basins were selected extensively throughout the project site for their high removal rates of coarse sediment and trash and pollutants that tend to associate with fine particles during treatment and their medium removal rates for pollutants that tend to be dissolved following treatment. Seven biofiltration basins, denoted as BMP-1 through BMP-7, have been proposed to meet stormwater pollutant control requirements and hydromodification management. BMP-3 and BMP-4 work in conjunction to manage flows for hydromodification and flood control. All biofiltration basins will be fully lined. Figure 5.9-2 depicts the location of biofiltration basins proposed throughout the project site.

Biofiltration (with underdrain) facilities are vegetated surface water systems that filter water through vegetation, and soil or engineered media prior to discharge via underdrain or overflow to the downstream conveyance system. Biofiltration with underdrain facilities are commonly incorporated into the site within parking lot landscaping, along roadsides, and in open spaces. Treatment is achieved through filtration, sedimentation, sorption, biochemical processes, and plant uptake (City of Carlsbad 2016b).

The site access driveways are unable to be routed to basins. Therefore, modular wetlands are proposed along the west side of each access driveway for storm water quality treatment purposes and collection of flows.

A modular wetland will be placed behind the west curb of the eastern driveway. Flows collected from the modular wetland will be conveyed through underground pipes to the relocated curb inlet located west of the driveway. The remaining area which consists of a portion of the entrance improvements and portion of the turn pocket improvements will continue sheet flowing in a westerly direction. These flows will be treated by a proposed tree well located in the El Camino Real right-of-way. The on-site and public turn pocket improvements located west of the relocated curb inlet have a super elevated condition consistent with El Camino Real vertical design conditions. The newly impervious areas will naturally sheet flow in a northwesterly direction to the road median where they would enter an existing biofiltration facility that was constructed for the El Camino Real road widening project (Figure 5.9-2).

The western driveway will have a modular wetland located behind the curb on the west side of the proposed driveway. It is not feasible to treat storm water quality on-site for the portion of the project site area north of (Drainage Management Area 8C) and the recently created impervious areas located along El Camino Real which were improvements made to allow for the turn pocket. Therefore, these areas will be allowed to comeingle with existing flows from El Camino Real and sheet flow in a northwesterly direction where they will confluence and then be treated by existing biofiltration facilities located on the road median constructed for the El Camino Real road widening project (Figure 5.9-2).

Source Control Best Management Practices

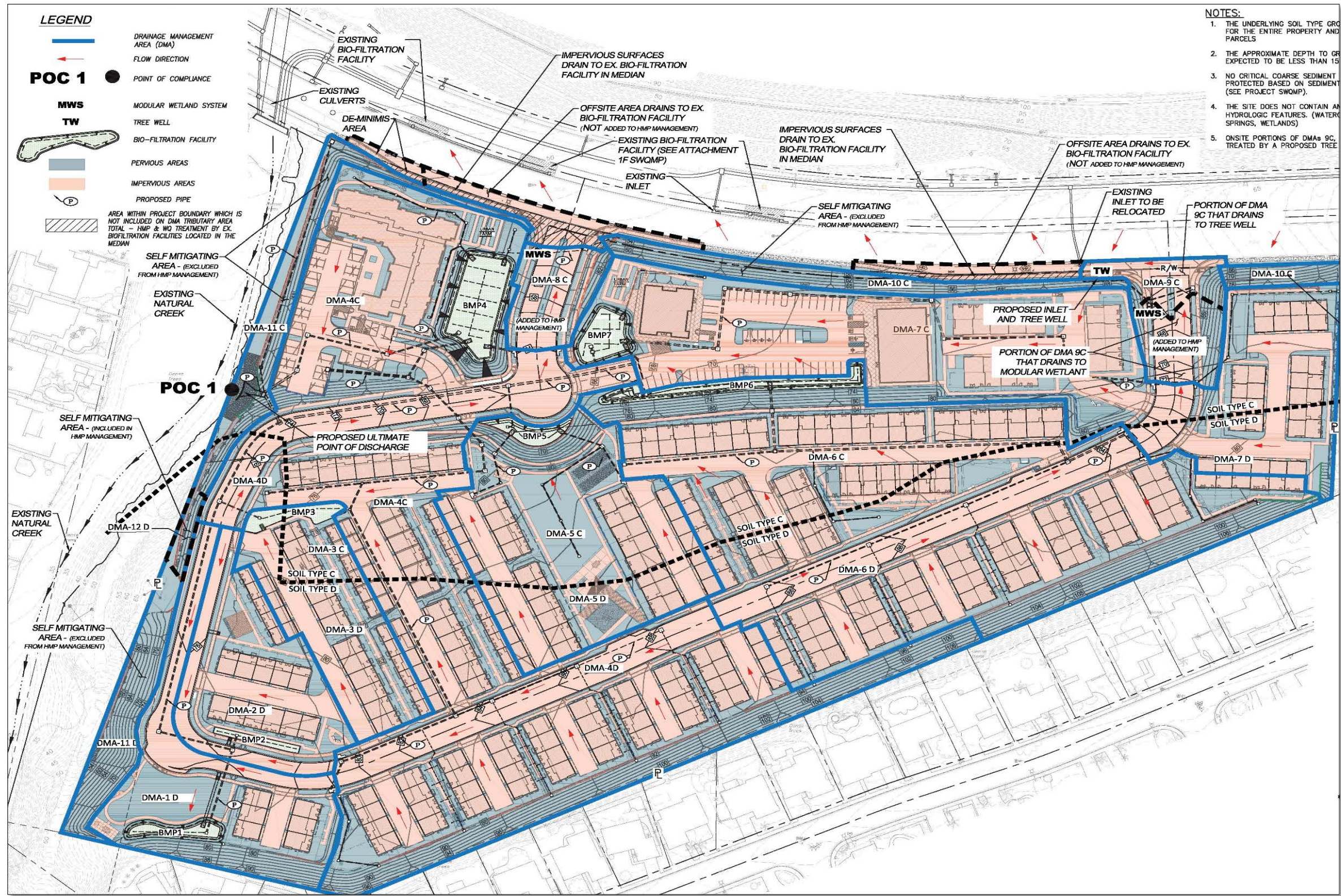
Source control BMPs refer to land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff. Table 5.9-2 identifies the source control BMPs for the proposed project.

Pollutant Control Best Management Practices

As indicated above, water quality treatment would be accomplished through the use of biofiltration facilities. A biofiltration basin will treat for sediments, trash and debris, heavy metals, bacteria and viruses, oil and grease, and organics at a high level of removal efficiency and treat for nutrients at a medium level of efficiency. The proposed project's pollutant control BMPs are numerically sized BMPs based on the required sizing criteria provided in the BMPDM.

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Figure 5.9-2. Water Quality Best Management Practice Locations



Source: Appendix H of this EIR

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Table 5.9-2. Permanent and Operational Source Control Measures

Potential Source of Runoff Pollutants	Permanent Source Control BMPs	Operation Source Control BMPs
On-site storm drain inlets	Mark all inlets with the words “No Dumping! Flows to Bay” of similar	<ul style="list-style-type: none"> Maintain and periodically repaint or replace inlet markings Provide stormwater pollution prevention information to new site owners, lessees, or operators
Future indoor and structural pest control	Building shall integrate features that discourage entry of pests	<ul style="list-style-type: none"> Provide integrated pest management information to owners, lessees, or operators
Landscape/outdoor pesticide use	<p>Final landscape plans will accomplish all of the following:</p> <ul style="list-style-type: none"> Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions Consider using pest-resistant plants, especially adjacent to hardscape To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions 	<ul style="list-style-type: none"> Maintain landscaping using minimum or no pesticides
Fire sprinkler test water	Fire sprinkler test water will be plumbed to sanitary sewer	
Plazas, sidewalks, and parking lots		<ul style="list-style-type: none"> Plazas, sidewalks and parking lots shall be swept regularly to prevent the accumulation of litter and debris Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.
Pool spas and decorative fountains	Water feature will be plumbed to the sanitary sewer	
Food service	Drain for floor sink will be connected to a grease interceptor before discharging to the sanitary sewer	

Table 5.9-2. Permanent and Operational Source Control Measures

Potential Source of Runoff Pollutants	Permanent Source Control BMPs	Operation Source Control BMPs
Refuse Areas	Signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar	<ul style="list-style-type: none"> • Provide adequate number of receptacles • Inspect receptacles regularly; repair or replace leaky receptacles • Keep receptacles covered. • Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. • Inspect and pick up litter daily and clean up spills immediately. • Keep spill control materials available on-site.

Source: Appendix H of this EIR

Conclusion

Construction activities could result in a potentially significant impact associated with erosion/sedimentation and discharge of construction-related hazardous materials (e.g., fuels, grease, etc.) into local storm drains. Mitigation Measure WQ-1 requires the applicant to prepare and submit for review and approval of the Carlsbad City Engineer a SWPPP to demonstrate that construction-related pollutants will be controlled. With implementation of Mitigation Measure WQ-1, this impact would be reduced to a less than significant level.

Once constructed, the proposed project uses would likely generate certain pollutants that could affect water quality downstream from the project site. The potential water quality impact associated with operation of the proposed project is considered a significant impact. However, Mitigation Measure WQ-2 requires the developer to prepare a SWQMP and submit grading and improvements plans that demonstrate that pollutants will be controlled through compliance with the City of Carlsbad BMPDM. The proposed project will be required to incorporate LID site design, source control, pollutant control, and hydromodification management BMPs into the project design. Approval of such plans would be subject to a determination by the Carlsbad City Engineer that the proposed project has incorporated the post-development water quality pollution site design BMPs, source control BMPs, and pollutant control BMPs.

Impact 5.9-2 Groundwater

Would the proposed project substantially deplete groundwater supplies or interfere substantially with groundwater recharge that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level?

No groundwater resources occur within the vicinity of the project site. Proposed landscaping on the project site would break up areas of imperviousness. Water would be able to percolate through the ground in the impervious areas of the project site. The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The proposed project would not utilize groundwater for potable water supplies and the project site does not overlay an aquifer used for municipal supplies. Therefore, no impact associated with this issue is anticipated.

Impact 5.9-3 Alter Drainage Pattern Resulting in Erosion or Siltation

Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Implementation of the proposed project would include construction activities, such as excavation and trenching for foundations and utilities, soil compaction, cut and fill activities, and grading, all of which would temporarily disturb soils. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport from the site. Therefore, the proposed project has the potential to result in significant adverse impacts related to erosion and siltation. However, because the proposed project will disturb more than 1-acre of surface area, it will be subject to the Construction General NPDES Permit requirements, including preparation of a SWPPP.

The City of Carlsbad Stormwater Management and Discharge Control Ordinance also requires every construction activity within Carlsbad that has the potential to negatively affect water quality to prepare a construction SWPPP. A SWPPP provides for temporary measures to control sediment and other pollutants during construction as required by the most recent statewide permit regulating construction activities. The requirements in the SWPPP ensure compliance with the Carlsbad Grading and Drainage Ordinance. Mitigation Measure WQ-1 requires the applicant to prepare and submit for review and approval of the Carlsbad City Engineer a SWPPP to demonstrate that construction-related pollutants will be controlled. Implementation of Mitigation Measure WQ-1 would reduce the potential impacts from erosion and siltation to less than significant levels.

The MS4 Permit defines hydromodification as the change in the natural watershed hydrologic and runoff characteristics (i.e., interception, infiltration, overland flow, and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, such as stream channelization and concrete lining are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Typical impacts to natural watershed hydrologic processes and runoff characteristics resulting from new development and redevelopment include:

- Decreased interception and infiltration of rainfall at the project site due to removal of native vegetation, compaction of pervious area soils, and the addition of impervious area;
- Increased runoff volume, flow rate, and duration from the project site due to addition of impervious area, removal of native vegetation, and compaction of pervious area soils;
- Reduction of critical coarse sediment supply from the project site to downstream natural systems (e.g., streams) due to stabilization of developed areas, stabilization of streams, and addition of basins that trap sediment (either by design as a permanent desilting basin or storm water quality treatment basin that settles sediment, or incidentally as a peak flow management basin).

Storm water runoff from the project site would be routed to one point of compliance (POC) located at the northwest corner of the project site. Runoff from the developed project site would drain to 7 on-site receiving biofiltration basins (Figure 5.9-2). Three biofiltration basins are proposed for water quality treatment and hydromodification conformance for the project site. Four biofiltration basins are proposed for water quality treatment, hydromodification conformance, and Q100 peak flow attenuation for the project site.

Once flows are routed via the proposed biofiltration basins, all onsite flows would then be conveyed via storm drain to the existing point of discharge. In developed conditions, the biofiltration basins will have a surface depth and a riser spillway structure set to variable elevations. Flows will then discharge from the basins via a low flow orifice outlet within the gravel layer. The riser structure will act as a spillway such that peak flows can be safely discharged to the receiving storm drain system.

According to the *Hydromodification Management Technical Memorandum* prepared for the proposed project (included in Appendix H of this EIR), the flow duration curve for the proposed condition with the HMP BMPs is within the 110 percent of the curve for the existing condition in both peak flows and durations. The additional runoff volume generated from development of the site will be released to the existing point of discharge at a flow rate below the 10 percent Q2 lower threshold for POC-1. Additionally, the proposed project would not increase peak flow rates between the Q2 and Q10, as shown in Table 5.9-3. Therefore, the proposed HMP BMPs provided for the proposed project is sufficient to meet the current HMP criteria for the POC. This is considered a less than significant impact.

Table 5.9-3. Q2 to Q10 Comparison Table – Point of Compliance 1

Return Period	Existing Condition (cfs)	Mitigated Condition (cfs)	Reduction (Existing – Mitigated) (cfs)
10	8.190	6.985	1.205
9	7.582	6.914	0.669
8	6.959	6.691	0.268
7	6.468	6.213	0.254
6	6.199	5.727	0.472
5	5.796	5.076	0.720
4	5.637	4.723	0.914
3	5.325	4.018	1.308
2	4.210	2.860	1.350

Source: Appendix H of this EIR

Notes:

cfs=cubic feet per second

Impact 5.9-4 Alter Drainage Pattern Resulting in Flooding

Would the proposed 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

With development of the proposed project, land uses will result in a change in the topographical conditions of the area and an increase in impervious surface area. Because a majority of the project site is currently undeveloped, proposed development will create an increase in impervious area and there will be a corresponding level of increased stormwater runoff volumes.

For this drainage analysis, the pre-developed conditions peak flows were calculated using the Rational Method as described in the San Diego County Hydrology Manual. The Rational Method is a physically-based numerical method where runoff is assumed to be directly proportional to rainfall and area, less losses for infiltration and depression storage.

The project proposes to create new impervious surfaces consisting of rooftop, driveways, and new parking areas. Grading activities would be required to level out areas for new improvements, but the drainage patterns would mostly remain the same except for approximately 520 feet of the easterly perimeter slopes along the frontage of El Camino Real. It is considered infeasible to capture flows from said slope and route them to the point of discharge. Therefore, flows would sheet flow onto El Camino Real where they would be captured by existing structures which would convey them onto Agua Hedionda Creek.

The project proposes the installation of storm drain structures that would convey flows to the westerly property line where they would discharge to the pre-development discharge point and ultimately enter the adjacent Agua Hedionda Creek. All generated flows would be taken via gutters and underground pipes to proposed bio-filtration facilities for water quality pollution control, hydromodification management and Q_{100} attenuation. Treated flows would then discharge at the same predevelopment point of discharge.

The site access driveways are unable to be routed to basins. Therefore, modular wetlands have been proposed along the west side of each access driveway for water quality purposes and collection of flows. To maximize the treatment area of the westerly driveway, a curb inlet is proposed on the easterly half, which will capture flows and at the same time, act as a conveying system to the flows from the perimeter slope basin. After treatment, flows will then be conveyed in a southwesterly direction to confluence with site flows before being discharged. In addition to the modular wetland for the easterly driveway, a tree well has been included for water quality purposes and flow conveyance on the east side of the curb inlet located along El Camino Real. The tree well is meant to treat flows downstream of the modular wetland taking advantage of the existing underground conveyance system. Flows will be routed to an existing 18" RCP storm drain lateral, which conveys flows to an existing 48" RCP storm drain main. The existing 48" RCP main system was analyzed to confirm that the increase in peak discharge will not compromise the system downstream (Appendix G of this EIR).

The results of the drainage analysis for pre-developed and proposed conditions with detention are presented in Table 5.9-4. As shown in Table 5.9-4, with the proposed biofiltration basins, the post-developed peak flows would be reduced below the pre-developed levels for the 100-year storm. Therefore, the proposed project would not substantially increase the rate of surface runoff in a manner which would result in flooding on- or off-site. This is considered a less than significant impact.

Table 5.9-4. Summary of Peak Flows

Area (acres)			100-Year Peak Flows (cfs)			
Existing	Developed	Difference	Existing	Developed (Unmitigated)	Developed (Mitigated)	Difference
20.84	221.23	+0.4 ¹	40.09	53.42	39.13 ²	-0.96

Source: Appendix G of this EIR

Notes:

¹ Increase in area is due to the offsite analysis to determine the effect of increasing the Q being discharged onto the existing 18" RCP Lateral.

² Values are based on the subtraction of the delta from the mitigated results of BMP 3 and 4 from the unmitigated Q, delta from BMP 3 and 4 = 14.29 cfs

cfs=cubic feet per second

Impact 5.9-5 Contribute Runoff Exceeding the Capacity of Stormwater Drainage Systems

Would the proposed project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage system or provide substantial additional sources of polluted runoff?

As described above under Impact 5.9-4, with the proposed biofiltration basins, the post-developed peak flows would be reduced below the pre-developed levels for the 100-year storm. Therefore, the proposed project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage system or provide substantial additional sources of runoff. This is considered a less than significant impact.

Impact 5.9-6 Degrade Water Quality

Would the proposed project otherwise substantially degrade water quality?

Pollutant control BMPs would be installed and maintained to protect water quality per the city's MS4 permit. Please refer to the preceding analysis under Impact 5.9-1 regarding water quality for a detailed discussion. With the implementation of the proposed mitigation, this impact would be less than significant.

Impact 5.9-7 Place Housing within a 100-year Flood Hazard Area

Would the proposed project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, FIRM or other flood hazard delineation map?

According to Figure 6-1: Potential Flood Hazards in the Public Safety Element of the Carlsbad General Plan, the project site is not located within a 100-year flood zone (City of Carlsbad 2015d). Therefore, the proposed project would not place housing within a 100-year flood hazard area and no impact would occur.

Impact 5.9-8 Place Structures within a 100-year Flood Hazard Area

Would the proposed project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

According to Figure 6-1: Potential Flood Hazards in the Public Safety Element of the Carlsbad General Plan, the project site is not located within a 100-year flood zone (City of Carlsbad 2015d). Therefore, the proposed project would not place new structures within a 100-year flood hazard area that could otherwise impede or redirect flood flows. No impact would occur.

Impact 5.9-9 Failure of a Levee or Dam

Would the proposed project expose people or structures to a significant risk or loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

The project site is not protected by levee structures or within a delineated dam inundation zone. According to Figure 6-2: Dam Inundation Areas in the Public Safety Element of the Carlsbad General Plan, the project site is not located within a delineated dam inundation zone (City of Carlsbad 2015d). For these reasons, the proposed project would not expose people or structures to a significant risk or loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. No impact would occur.

Impact 5.9-10 Inundation

Would the proposed project result in inundation by seiche, tsunami, or mudflow?

According to Figure 6-3: Maximum Tsunami Projected Runup in the Public Safety Element of the Carlsbad General Plan, the project site is not located in an area identified as having risk of tsunami run-up (City of Carlsbad 2015d). The project site is not located near any lakes or confined bodies of water, and is therefore not at risk as a result of seiche.

The project site contains hillside conditions that are defined as slopes greater than 15 feet in height and 15 percent in slope. The project site contains areas with steep slopes that could be subject to mudflows in the event of large amounts of precipitation. However, Mitigation Measure GEO-1 (see Section 5.6, Geology/Soils of this EIR) would require the incorporation of site-specific design recommendations from the geotechnical investigation into the project design. Appropriate techniques to minimize mudflow potential would be designed and implemented, including but not limited to, remedial grading, slope stabilization in areas of proposed development, and construction of buttress fills to remediate the potential for instability of cut slopes. Therefore, implementation of Mitigation Measure GEO-1 would reduce the exposure to substantial adverse effects associated with potential mudflows to a less than significant level.

5.9.4 Level of Significance before Mitigation

The proposed project has the potential to result in water quality impacts associated with short-term construction activities. Once constructed, the project site will likely generate certain pollutants commonly found in similar developments that could affect water quality downstream from the project site. These are considered potentially significant impacts.

5.9.5 Environmental Mitigation Measures

WQ-1 Prior to issuance of a grading permit for any phase of the development, the applicant shall prepare and submit for review and approval of the Carlsbad City Engineer, a SWPPP to demonstrate that pollutants will be controlled through compliance with the City of Carlsbad Stormwater Management and Discharge Control Ordinance, General Construction Stormwater Permit (Order No. 2012-0006-DWQ, NPDES CAS000002), and the General Municipal Stormwater Permit (R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, NPDES No. CAS0109266). The applicant shall be responsible for monitoring and maintaining the BMP erosion control measures identified below on a weekly basis in accordance with the city's grading and erosion control requirements (Municipal Code Section 15.16. et seq.). The locations of all erosion control devices shall be noted in the SWPPP referenced on the grading plans. BMPs that shall be installed include, but are not limited to, the following:

- Silt fence, fiber rolls, or gravel bag berms;
- Street sweeping and vacuuming;
- Storm drain inlet protection;
- Stabilized construction entrance/exit;
- Hydroseed, soil binders, or straw mulch;
- Containment of material delivery and storage areas;

- Stockpile management;
- Spill prevention and control;
- Waste management for solid, liquid, hazardous, and sanitary waste-contaminated soil; and,
- Concrete waste management.

WQ-2 Prior to the issuance of grading permits or other approvals for any public or private right-of-way improvements, the developer shall prepare and submit for review and approval of the Carlsbad City Engineer, SWQMP, grading and improvement plans that demonstrate that pollutants will be controlled through compliance with the City of Carlsbad BMPDM. Approval of such plans shall be subject to a determination by the Carlsbad City Engineer that the proposed project has implemented an integrated Low Impact Development (LID) approach to meet criteria described in the City of Carlsbad BMPDM. The proposed project has incorporated LID strategies which include site design BMPs, source control BMPs and pollutant control BMPs into the project design to the maximum extent practicable.

5.9.6 Level of Significance after Mitigation

Implementation of Mitigation Measure WQ-1 will reduce water quality impacts associated with construction of the proposed project to a level less than significant. Implementation of Mitigation Measure WQ-2 will reduce the potential long-term water quality impacts associated with operation of the proposed project to a level less than significant.

5.10 Land Use Planning

This section provides information regarding current land use, land use designations, and land use policies pertinent to the project site. Section 15125(d) of the CEQA Guidelines states that “[t]he EIR shall discuss any inconsistencies between the projects and applicable general plans and regional plans.” This section fulfills this requirement for the proposed project. In this context, this section reviews the land use assumptions, designations, and policies of the *Carlsbad General Plan* and other applicable federal, state, and local requirements, which govern land use within the project area and evaluates the proposed project’s potential to conflict with policies adopted for the purpose of avoiding or mitigating significant environmental effects. Where appropriate, mitigation is applied and the resulting level of impact identified.

5.10.1 Existing Conditions

The project site is currently developed with small-scale commercial uses accessed from El Camino Real, and one existing home, associated structures, and disturbed land that was utilized in the past for agriculture. The western portion of the project site is occupied by a commercial nursery.

The Robertson Ranch residential and commercial development is currently under construction to the north of the project site. Existing single-family residential units are located to the west of the project site (along Kelly Drive), and to the south of the site (along Park Drive). A small mobile home park is located to the east of the project site.

In 2015, the City of Carlsbad approved a citywide update to the general plan along with zone changes to ensure consistency between the *Carlsbad General Plan* designations and the zoning designations. As a part of this extensive process, the residential portion of the project site (APN 207-101-35) was changed from Residential Low Medium Density (RLM) to R-15 Residential (R-15) with a stipulation that the site be developed at a level not less than 12 dwelling units per acre. The commercial portion of the project site (APN 207-101-37) was changed from Local Shopping Center (L) to General Commercial (GC). Figure 5.10-1 depicts the existing *Carlsbad General Plan* land use designations of the site and surrounding properties.

The zoning designations of the project site were also changed to reflect the updated *Carlsbad General Plan* designations. The residential portion of the project site (APN 207-101-35) was changed from Residential Agriculture (R-A-10,000) to Residential Density-Multiple Zone (RD-M); however, the commercial portion of the project site (APN 207-101-37) maintained the zoning designation of General Commercial (C-2). Figure 5.10-2 depicts the existing zoning designations of the site and surrounding properties.

Figure 5.10-1. Existing Carlsbad General Plan Land Use Designations



LEGEND

 Project Site	 R-4, Residential 0-4 du/ac	 L, Local Shopping Center
	 R-8, Residential 4-8 du/ac	 OS, Open Space
	 R-15, Residential 8-15 du/ac	 CF, Community Facilities
	 R-23, Residential 15-23 du/ac	 P, Public
	 GC, General Commercial	

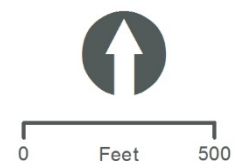
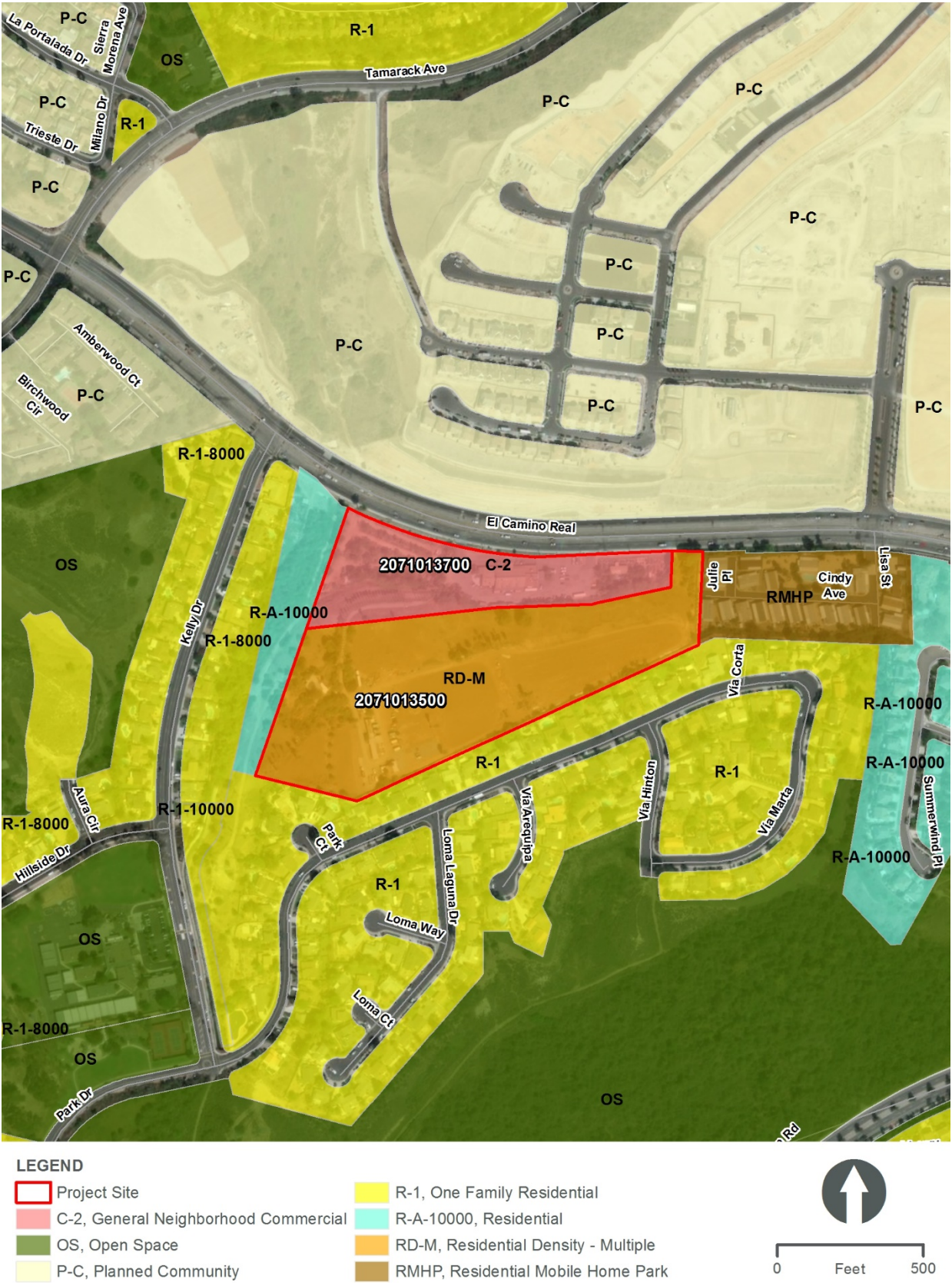




Figure 5.10-2. Existing Zoning Designations



5.10.2 Regulatory Setting

This section identifies and summarizes the state and local laws, policies, and regulations that are applicable to the proposed project.

State

State Density Bonus Law

The State Density Bonus Law (SDBL) provides incentives for affordable and other specialized housing production by requiring local agencies to grant an increase to the maximum allowable residential density for eligible projects, and to support the development of eligible projects at greater residential densities by granting incentives, concessions, waivers, or reductions to applicable development regulations. The SDBL provides up to a maximum density bonus of 35 percent for eligible projects. Both rental and for-sale projects may qualify for the bonuses. To be eligible for a SDBL density bonus, projects may incorporate affordable housing units, donate land towards the production of affordable housing, incorporate senior housing or specialized housing for targeted communities, or include a child care facility on site.

Coastal Act

The Coastal Act of 1976 permanently established the California Coastal Commission and replaced Proposition 20, an initiative passed in 1972. The Coastal Commission was initially established by the Proposition 20 initiative as an interim agency to prepare planning documents within a 4-year period. By passing the Coastal Act of 1976, the State Legislature created the mandate for preparation of Local Coastal Programs and established the following goals:

1. Protect, maintain, and where feasible, enhance and restore the overall quality of the Coastal Zone environment and its natural and man-made resources.
2. Assure orderly, balanced utilization and conservation of Coastal Zone resources taking into account the social and economic needs of the people of the State.
3. Maximize public access to and along the coast and maximize public recreational opportunities in the Coastal Zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners.
4. Assure priority for coastal-dependent development over other development on the coast.
5. Encourage State and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the Coastal Zone.

Local

San Diego Association of Governments – Regional Plan

On October 9, 2015, the SANDAG Board of Directors adopted San Diego Forward: The Regional Plan. This plan combines the Regional Comprehensive Plan (adopted in 2004) with the 2050 RTP/SCS, which was adopted in 2012. The Regional Plan identifies the five following strategies to move the San Diego region toward sustainability:

- Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.
- Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.
- Invest in a transportation network that gives people transportation choices and reduces GHG emissions.
- Address the housing needs of all economic segments of the population.
- Implement the Regional Plan through incentives and collaboration.

City of Carlsbad General Plan

The *Carlsbad General Plan* is composed of nine elements: Land Use and Community Design; Mobility; Open Space, Conservation and Recreation; Noise; Public Safety; Arts, History, Culture and Education; Economy, Business Diversity, and Tourism; Sustainability; and Housing. Together, these elements satisfy the seven mandatory general plan elements as established in the California Government Code. Goals, objectives, and implementing policies and actions programs have been established for each of the elements. The elements that apply specifically to Land Use include; Land Use and Community Design, Housing, Mobility, Public Safety, Noise, and Open Space, Conservation and Recreation.

As shown on Figure 5.10-1, the project site is designated R-15 and GC by the *Carlsbad General Plan*. Areas with the R-15 designation are intended to be developed with housing at a density of between 8 to 15 dwelling units per acre. Housing types may include two-family dwellings (two attached dwellings, including one unit above the other) and multi-family dwellings (three or more attached dwellings); detached single-family dwellings may be permitted on small lots or when developed as two or more units on one lot, subject to specific review and community design requirements. The GC designation includes sites that provide general commercial uses that may be neighborhood serving and/or serve a broader area of the community than local shopping centers. Sites with this designation may be developed with a stand-alone general commercial use, two or more general commercial uses, or mixed use (general commercial uses and residential dwellings). Residential dwellings are allowed as a secondary use at a minimum of 15 dwelling units per acre (based on 25 percent of developable acreage) (City of Carlsbad 2015a).

Zoning Ordinance (Carlsbad Municipal Code, Title 21)

The city's Zoning Ordinance provides the physical land use planning criteria for development within the city. This ordinance implements the *Carlsbad General Plan* by regulating the distribution and intensity of land uses in such categories as residential, commercial, and industrial. Regulations establish standards for minimum lot size; building height and setback limits; fence heights; parking; and other development parameters within each land use.

As described in Section 5.10.1, the project site is currently zoned RD-M and C-2. The intent and purpose of the RD-M zone is to implement the residential medium density, residential medium-high density, and residential high-density land use designations of the *Carlsbad General Plan* and to provide regulations and standards for the development of residential dwellings. The C-2 zone provides regulations and standards for the development of general commercial uses that serve the local community. Permitted uses in the C-2 zone include a range of retail, wholesale, and service uses, as well as residential uses.

Housing for Senior Citizens (Chapter 21.84)

The housing for senior citizens regulations provides a mechanism and standards for the development of rental or for-sale housing available to senior citizens. The regulations provide comprehensive standards and regulations to ensure housing is designed to meet the special needs of senior citizens (i.e., physical, social, and economic needs).

Inclusionary Housing Ordinance (Chapter 21.85)

The city adopted an Inclusionary Housing Ordinance established by the *Carlsbad General Plan* Housing Element to ensure that all residential development, including residential subdivisions provide a range of housing opportunities for all economic segments of the population. In accordance with Chapter 21.85 of the CMC, the proposed project will meet the requirements of the Inclusionary Housing Ordinance by designating an area within the project site for age restricted affordable housing. An affordable housing agreement will be executed according to CMC Section 21.85.140

Residential Density Bonus and Incentives or Concessions (Chapter 21.86)

Consistent with state law (Government Code sections 65913.4 and 65915), the city offers residential density bonuses as a means of encouraging affordable housing development. In exchange for setting aside a portion of the development as units affordable to lower- and moderate income households and senior citizens, the city will grant a density bonus over the otherwise allowed maximum density, and up to three financial incentives or regulatory concessions.

Coastal Resource Protection Overlay Zone Ordinance (Chapter 21.203)

Chapter 21.203 of the CMC requires that projects demonstrate consistency with the approved Carlsbad LCP and obtain a CDP for developments within the coastal zone. The proposed project occurs within the boundaries of the coastal zone within Carlsbad, as identified within the approved Carlsbad LCP. The city uses its LCP as a planning tool to guide development in the coastal zone, in partnership with the CCC. The LCP contains the ground rules for future development and the protection of coastal resources. The Carlsbad LCP includes two main components: a land use plan and related implementing measures including a zoning map, and zoning ordinance. In particular, the local coastal land use plans include measures specifically intended to protect natural open space resources, scenic resources, agricultural lands, and public access rights. Nearly all development proposals within the coastal zone, from removal of natural vegetation, to the construction of master planned communities, require the approval of a CDP in addition to any other permits or entitlements.

The city issues CDPs in all adopted Carlsbad LCP segments within their jurisdictional boundaries with the exception of the Agua Hedionda Lagoon segment of the Carlsbad LCP, which is a deferred certification area. The CDPs in the Agua Hedionda Lagoon segment of the Carlsbad LCP are issued by the CCC. The CDPs issued by the city are appealable to the CCC only if they are located within an

appellate area. In conformance with the LCP, the city regulates developments within the coastal zone according to the CRPOZ Ordinance. The CRPOZ requires that project applicants obtain a CDP.

Hillside Development Regulations (Chapter 21.95)

The city's Hillside Development Regulations are intended to preserve and/or enhance the aesthetic qualities of natural hillsides and manufactured slopes. The regulations require project grading to be minimized, to relate to the slope of the land, and to incorporate contours in manufactured slopes located in highly visible public locations. The regulations additionally assure that the alteration of natural hillsides are done in an environmentally sensitive manner to protect lagoons and riparian ecosystems from increased erosion and avoid substantial impacts to natural resource areas, wildlife habitats, or native vegetation.

Growth Management Plan

The Growth Management Chapter of the Zoning Ordinance is generally intended to provide a balanced community, ensure that development is consistent with the *Carlsbad General Plan*, and prevent growth unless adequate public facilities and improvements are provided in a phased and logical fashion. Pursuant to the city's GMP and Chapter 21.90 of the CMC, the city is organized into 25 zones. The GMP requires the preparation of LFMPs for the 25 different management zones within the city. The LFMPs implement the provisions of the city's GMP and Zoning Ordinance by phasing all development and public facility needs in accordance with the adopted GMP performance standards. The public facilities include city administration, library, wastewater treatment, parks, drainage, circulation, fire, open space, schools, sewer collection, and water distribution. Individual projects must comply with the provisions of the LFMP in which they are located, as well as implement the provisions of the city-wide plan.

Environment Ordinance (Carlsbad Municipal Code, Title 19)

The city's Environment Ordinance provides for the enhancement and protection of the environment within the city. It establishes principles, criteria, and procedures for evaluating the environmental impacts, consistent with the *Carlsbad General Plan* and CEQA.

Subdivisions Ordinance (Carlsbad Municipal Code, Title 20)

This ordinance implements Title 7, Division 2 of the California Government Code (Subdivision Map Act), and sets procedures to regulate the division of land. Both the *Carlsbad General Plan* and the Carlsbad Subdivision Ordinance govern the design of the subdivision, the size of its lots, and the types of improvements that will be required as conditions of approval.

Grading and Drainage Ordinances (Carlsbad Municipal Code, Title 15)

The city's Grading Ordinance establishes minimum requirements for grading, including clearing and grubbing of vegetation, in order to protect life and property, to improve the physical environment of the community, and to preserve the natural scenic character of Carlsbad. The Drainage Ordinance ensures the timely completion of planned local storm drainage, flood control and water pollution control improvements, and protection of receiving waters and wetlands in a manner pursuant to and consistent with the Clean Water Act and municipal permit.

California Building Code (Carlsbad Municipal Code, Title 18)

The city's Building Code regulates the design, construction, occupancy, and location of buildings through standards to safeguard health, property, and public welfare. The code is developed by the California Building Standards Commission. All residential, industrial, and commercial development in the city must conform to the provisions of these codes.

Fire Prevention Code (Carlsbad Municipal Code, Title 17)

The city's Fire Prevention Code establishes the minimum requirements to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations. The code incorporates by reference the California Fire Code, which is updated every 3 years by the California Building Standards Commission.

City Council Policy 43

City Council Policy 43 is the established policy for the number and allocation of Proposition E (Growth Management) "excess" dwelling units. Policy 43 establishes the city's policy regarding the number and the criteria for allocation of "excess" dwelling units which have become available as a result of residential projects being approved and constructed with less dwelling units than would have been allowed by the density control points of the GMP as approved by the voters on November 4, 1986, as Proposition E.

Under city policy, "excess" dwelling units may be allocated to projects located in any quadrant of the City as long as the number of residential units constructed in each quadrant does not violate the dwelling unit limitations established by Proposition E.

The number of excess dwelling units allocated shall be at the sole discretion of the decision-maker designated by the CMC. The City Council, Planning Commission, or the City Planner retains the discretion to deny approval of the project or approve the proposed project without any excess Dwelling Units. In approving a request for an allocation of excess Dwelling Units, the City Council, Planning Commission, or City Planner shall make the following findings:

1. That the project location and density are compatible with existing adjacent residential neighborhoods and/or nearby existing or planned uses
2. That the project location and density are in accordance with the applicable provisions of the general plan and any other applicable planning document
3. That the project complies with the findings stated in the general plan Land Use Element for projects that exceed the growth management control point for the applicable density range (this finding applies only to properties outside the Village Review Zone)
4. That the project complies with the findings stated in the Carlsbad Village Master Plan and Design Manual, Chapter 3, Development Standards, for projects that exceed the maximum densities set forth therein (this finding applies only to properties inside the Village Review Zone)

In order to qualify for an allocation of excess units, a project shall agree to provide the number of inclusionary housing units required by CMC Section 21.85.050 and to execute an affordable housing agreement according to CMC Section 21.85.140. The calculation of the required number of inclusionary units shall be based on all the Dwelling Units in the proposed project and not just those

for which the excessing Dwelling Unit allocation is sought. The applicant shall otherwise agree to comply with the requirements of CMC Chapter 21.85 applicable to the inclusionary units.

Livable Neighborhoods Design Guidelines (Council Policy No. 66)

The city developed principles for the development of livable neighborhoods. Livable neighborhoods have a sense of identity and community where residents are encouraged to walk instead of using their cars; where homes are in scale to the size of their lots; where streets are pedestrian-friendly with walkways to common destinations such as schools, parks, stores, and transit; where houses are interesting to look at with strong architectural elements; and where open spaces form focal points, gathering places, and recreational spaces for a variety of age groups.

El Camino Real Corridor Development Standards

The El Camino Real Corridor Development Standards were adopted in 1984 to further the goals of the then-existing Land Use and Scenic Highways Elements of the *Carlsbad General Plan* to preserve unique city resources as they relate to highways. The standards provide a general design concept for the entire length of the El Camino Real right-of-way, and establish development restrictions for private properties fronting the roadway. The design concept is an easily identifiable homogenous corridor that capitalizes on the distinct design characteristics of five distinct subareas. The standards include design guidelines emphasizing retention of natural topography; right-of-way standards for landscaping, street lighting, signage, and furniture; and private frontage standards for design theme, medians, sidewalks, signage, building height and setback, grading, street furniture and lighting, roofing, and land use.

Carlsbad Tribal, Cultural and Paleontological Resources Guidelines

In 1990, the city developed its first set of guidelines, *Carlsbad Cultural Resource Guidelines*, for the treatment of cultural resources that fall within the limits of the city. Since 1990, a number of changes have occurred in the regulatory context within which the city operates. These changes occurred at various levels of jurisdiction, including at the city, state, and national levels and in the thresholds and expectations for best professional practices in cultural resources management. Changes have also occurred in terms of the level of involvement by stakeholders in cultural resources, particularly Native American tribes, as well as historical societies and the general public. In 2017, the city updated their guidelines and renamed it the *Carlsbad Tribal, Cultural, and Paleontological Resource Guidelines*. The updated guidelines incorporate the addition of new procedures (i.e., AB 52 consultation) to address the additional requirements that emerged since the first set of guidelines were adopted in 1990.

Carlsbad Landscape Manual

The policies, programs, and requirements of the city's Landscape Manual apply to all public and private development requiring discretionary permits or submittal of landscape plans for development permits. The Landscape Manual contains policies and requirements associated with:

- Planting
- Irrigation
- Water Conservation
- Streetscape
- Slope Revegetation/Erosion Control

- Fire Protection

The policies and requirements within the Landscape Manual are minimum standards and projects are encouraged to exceed the standards whenever possible. However, variances may be granted from the policies and requirements of the manual if undue hardships or special circumstances make a variance request necessary.

City of Carlsbad Local Coastal Program

The LCP, adopted in 1996, includes the city's land use plans, policies, and standards and an implementing ordinance (the Zoning Ordinance) for the city's Coastal Zone. The LCP meets the requirements, and implement the provisions and policies of the California Coastal Act. The city's LCP includes six planning areas or segments that cover approximately one-third of the city. The project site is located with the Mello II Segment of the LCP.

The Mello II Land Use Plan (herein referred to as "Land Use Plan") addresses the topical areas of land use, agriculture, environmental, geologic hazards, public works, recreation/visitor facilities, shoreline access, and visual resources. Consistent with the *Carlsbad General Plan*, the Land Use Plan has designated the project site as R-15 and GC. The existing zoning designation on the LCP Zoning Map is RD-M and C-2 (consistent with the city's Zoning Map).

City of Carlsbad Habitat Management Plan

The HMP in the city is a long-range plan, amended through 2004, for conserving wildlife habitat while still allowing for additional development to occur in the city. The Carlsbad HMP establishes a wildlife preserve system consisting of approximately 5,750 acres of existing and proposed open space. The HMP is an adopted subarea plan within the proposed North County Multiple Habitat Conservation Plan. The Carlsbad HMP defines Hardline Preserve Areas intended to conserve sensitive habitats within an open space system. The project site occurs within the boundaries of the Carlsbad HMP, outside of any HMP core, linkages, and SRA areas. No HMP designations occur on or immediately adjacent to the project site.

McClellan Palomar Airport Land Use Compatibility Plan

California law requires preparation of airport land use compatibility plans for each public-use and military airport in the state. The basic function of such plans is to promote compatibility between airports and the land uses that surround them. For McClellan-Palomar Airport, the San Diego County Airport Land Use Commission (ALUC) has prepared and adopted the McClellan-Palomar ALUCP. As required by State law, the *Carlsbad General Plan* must be consistent with the adopted ALUCP. If the city chooses to overrule a finding of the ALUC as stated in the ALUCP, it may do so by a two-thirds vote if it makes specific findings that the general plan is consistent with the intent of state airport land use planning statutes.

Based on a review of Exhibit III-2 - Compatibility Policy Map: Safety of the McClellan-Palomar ALUCP, the project site is not located within any airport safety zones as designated in the ALUCP (San Diego County Regional Airport Authority 2011). The project site is located within the ALUCP's Airport Overflight Notification Area and Review Area 2 of the AIA. Commonly used terms defined in the ALUCP and applicable to the proposed project include:

- **Airport Influence Area:** The AIA defines the jurisdiction of the ALUC and is the area where airport-related noise, safety, airspace protection, and overflight factors may significantly affect land use compatibility or necessitate restrictions on certain land uses as determined by the ALUC. Land use actions that affect property within the AIA are subject to the compatibility policies and criteria in this Compatibility Plan.
- **Review Area 2:** This area consists of locations beyond Review Area 1 but within the airspace protection and/or overflight notification areas. Limits on the heights of structures, particularly in areas of high terrain, are the only restrictions on land uses within Review Area 2. The recordation of overflight notification documents is required in locations within Review Area 2.
- **Overflight Notification:** An overflight notification is a buyer awareness tool designed to ensure that prospective buyers of property near an airport, particularly residential property, are informed about the airport's potential impact on the property. An overflight notification is recorded in the property's chain of title and indicates that the property may be subject to some of the annoyances or inconveniences associated with proximity to an airport and aircraft operations (such as noise, vibration, overflights, or odors). Unlike an aviation easement, an overflight notification does not convey property rights from the property owner to the airport and does not restrict the height of objects. It simply documents the existence of conditions that may affect the property.

5.10.3 Project Impacts

Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts to land use would be considered significant if the proposed project was determined to:

- Physically divide an established community
- Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect
- Conflict with any applicable habitat conservation plan or natural community conservation plan

Impact Analysis

Impact 5.10-1 Division of an Established Community

Would the proposed project physically divide an established community?

The proposed project would provide residential and commercial uses that would complement existing land uses in the area including other residential and commercial uses. The proposed project does not include the extension of a roadway or other component that would normally be considered to divide a community. No impact to this issue is anticipated.

Impact 5.10-2 Consistency with Plans

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

The proposed project's consistency with applicable plans, policies, and regulations is discussed below.

SANDAG San Diego Forward: The Regional Plan. The Regional Plan identifies strategies to move the San Diego region toward sustainability. This includes focusing housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit. The proposed project would provide residential uses that would complement existing residential development located to the east, south, and west. The proposed project includes residential development in a location that is central to urban land uses and services; including nearby education (Kelly Elementary School) and recreational area (Laguna Riviera City Park).

Future residents would have access to alternative forms of transportation. Transit service in the vicinity of the project site is provided by NCTD. The following NCTD bus routes serve the area with nearby stops along both directions of El Camino Real at Kelly Drive and Lisa Street: Route 309 and Route 323. The nearest stops to the proposed project for both routes are located on El Camino Real at Kelly Drive and at West Ranch Road / Lisa Street. The following bike lanes currently exist within the immediate area: El Camino Real (Class II), Tamarack Avenue (Class II), Kelly Drive (Class II), and Cannon Road (Class II). Based on these considerations, the proposed project would be consistent with SANDAG's Regional Plan.

City of Carlsbad General Plan. As shown on Figure 5.10-1, the project site is designated R-15 and GC by the *Carlsbad General Plan*. The proposed residential and commercial uses on the project site are allowable uses per the *Carlsbad General Plan*. The proposed project would be generally consistent with applicable goals and policies of the *Carlsbad General Plan*, would further the achievement of certain goals and policies of the *Carlsbad General Plan*, and would not obstruct implementation of any *Carlsbad General Plan* goal or policy, including those relating to affordable housing. Table 5.10-1 provides a summary of the *Carlsbad General Plan* goals/policies per element and provides a consistency discussion for each applicable goal/policy.



Table 5.10-1. Carlsbad General Plan Consistency Determination Summary

General Plan Goal/Policy	Consistency Determination
<i>Land Use and Community Design Element</i>	
<p>Goal 2-G.1: Maintain a land use program with amount, design, and arrangement of varied uses that serve to protect and enhance the character and image of the city as expressed in the Carlsbad Community Vision, and balance development with preservation and enhancement of open space.</p>	<p>Consistent. The project site is designated by the <i>Carlsbad General Plan</i> as GC and R-15. The project proposes the development of 296 dwelling units consisting of 237 townhomes within the R-15 General Plan designated area, and 46 age-restricted affordable units, 13 townhomes, and 10,000 square feet of commercial uses within the commercially designated area. Pursuant to the Inclusionary Housing Ordinance, the proposed project would include 46 for-rent units that will be rented to age restricted households in the moderate and lower income levels.</p> <p>The proposed project would implement an internally walkable mixed-use community that provides a balance of affordable and market rate housing connected to community gathering areas and commercial amenities (restaurant and retail). El Camino Real in the project vicinity was recently improved to its buildout 6-lane Arterial Street standard as part of the Robertson Ranch development located across the street from the proposed project. As such, intersection configurations, lane widths, bike lane and bus stop configurations, pedestrian sidewalk and crosswalk facilities are considered built out to city standards. The proposed onsite and existing offsite facilities provide a connected pedestrian network that would encourage pedestrian activity within the project site and immediate vicinity.</p>

Table 5.10-1. Carlsbad General Plan Consistency Determination Summary

General Plan Goal/Policy	Consistency Determination
<p>Goal 2-G.2: Promote a diversity of compatible land uses throughout the city, to enable people to live close to job locations, adequate and convenient commercial services, and public support systems such as transit, parks, schools, and utilities.</p>	<p>Consistent. The proposed project would provide residential uses that would complement existing residential development located to the east, south, and west. The proposed project includes residential development in a location that is central to urban land uses and services; including nearby education (Kelly Elementary School) and recreational area (Laguna Riviera City Park). The proposed project would provide active and passive recreational opportunities, pedestrian connections within the neighborhood to the various amenities, and a local commercial center to serve the neighborhood.</p> <p>The proposed project would encourage the use of non-motorized transportation. All private streets will contain sidewalks for safe pedestrian circulation. Other sidewalks and pathways will be provided for internal pedestrian circulation between the residential areas, commercial area, and recreational areas. Sidewalks are also included along El Camino Real. The proposed onsite and existing offsite facilities provide a connected pedestrian network that would encourage pedestrian activity within the project site and immediate vicinity. Furthermore, the following bike lanes currently exist within the immediate area: El Camino Real (Class II), Tamarack Avenue (Class II), Kelly Drive (Class II), and Cannon Road (Class II).</p> <p>Transit service in the vicinity of the project site is provided by NCTD. The following NCTD bus routes serve the area with nearby stops along both directions of El Camino Real at Kelly Drive and Lisa Street: Route 309 and Route 323.</p>
<p>Goal 2-G.3: Promote infill development that makes efficient use of limited land supply, while ensuring compatibility and integration with existing uses. Ensure that infill properties develop with uses and development intensities supporting a cohesive development pattern.</p>	<p>Consistent. The project site is representative of a classic infill site, surrounded by existing residential development to the east, south, and west. The project proposes the development of 296 dwelling units consisting of 237 townhomes within the R-15 General Plan designated area, and 46 age-restricted affordable units, 13 townhomes, and 10,000 square feet of commercial uses within the commercially designated area.</p>



Table 5.10-1. Carlsbad General Plan Consistency Determination Summary

General Plan Goal/Policy	Consistency Determination
<p>Goal 2-G.4: Provide balanced neighborhoods with a variety of housing types and density ranges to meet the diverse demographic, economic, and social needs of residents, while ensuring a cohesive urban form with careful regard for compatibility.</p>	<p>Consistent. The project proposes the development of 296 dwelling units consisting of 237 townhomes within the R-15 General Plan designated area, and 46 age-restricted affordable units and 13 townhomes within the commercially designated area. The townhomes will be no more than three stories and up to 35 feet in height, some with allowable protrusions above 35 feet per CMC Section 21.46.020 for stairwells and parapets. These units will include 3 bedrooms, and may range in size from 1,700 to 2,350 square feet. The 46 age-restricted affordable units will be located in one building adjacent to El Camino Real and the primary entrance to the site within the commercial area. The units will be studio, one bedroom, and two bedroom homes and may range in size from 525 square feet up to 750 square feet. Due to the provision of age-restricted inclusionary housing, none of the inclusionary housing units will include a three-bedroom unit.</p>
<p>Goal 2-G.6: Allow a range of mixed-use centers in strategic locations that maximize access to commercial services from transit and residential areas.</p>	<p>Consistent. See response to Goal 2-G.2 above.</p>
<p>Goal 2-G.7: Ensure that neighborhood serving shopping and mixed-use centers include shopping as a pedestrian-oriented focus for the surrounding neighborhood, are physically integrated with the surroundings, and contain neighborhood-serving stores and small offices. Where appropriate, include in the centers high and medium density housing surrounding the retail core or integrated in mixed-use buildings.</p>	<p>Consistent. See response to Goal 2-G.2 above.</p>
<p>Goal 2-G.17: Ensure that the scale and character of new development is appropriate to the setting and intended use. Promote development that is scaled and sited to respect the natural terrain, where hills, public realm, parks, open space, trees, and distant vistas, rather than buildings, dominate the overall landscape, while developing the Village, Barrio, and commercial and industrial areas as concentrated urban-scaled nodes.</p>	<p>Consistent. The proposed project would be developed in conformance with the development standards applicable to the RD-M and C-2 zones. The proposed grading concept would place the residential units proposed along the southern perimeter of the project site at an elevation such that residents of the new residential structures would not look down or onto the existing single-family properties located immediately to the south of the project site.</p>
<p>Goal 2-G.18: Ensure that new development fosters a sense of community and is designed with the focus on residents, including children, the disabled and the elderly, by providing: safe, pedestrian-friendly, tree-lined streets; walkways to common destinations such as schools, bikeways, trails, parks and stores; homes that exhibit visual diversity, pedestrian-scale and prominence to the street; central gathering places; and recreation amenities for a variety of age groups.</p>	<p>Consistent. See response to Goal 2-G.2 above.</p>
<p>Goal 2-G.19: Ensure that new neighborhood commercial centers are designed for pedestrian comfort, and integrate with the surrounding neighborhoods with new streets and paths.</p>	<p>Consistent. See response to Goal 2-G.2 above.</p>

Table 5.10-1. Carlsbad General Plan Consistency Determination Summary

General Plan Goal/Policy	Consistency Determination
<p>Goal 2-G.21: Ensure that adequate public facilities and services are provided in a timely manner to preserve the quality of life of residents.</p>	<p>Consistent. The proposed project would comply with the provisions of the adopted LFMP with respect to provision of public facilities and services, and includes restrictions on the timing and phasing of development in relation to the provision of community services and infrastructure. The city's GMP Policies, which are enforced in the LFMPs, would continue to monitor growth in the area to maintain adequate levels of service for the people living in Carlsbad. With the incorporation of the LFMP process and the city's GMP policies, development cannot proceed until adequate infrastructure is financially guaranteed to meet demand.</p>
<p>Policy 2-P.10: Development on slopes, when permitted, shall be designed to minimize grading and comply with the hillside development provisions of the Zoning Ordinance and the Carlsbad Local Coastal Program.</p>	<p>Consistent. Grading of the proposed project is subject to the city's Hillside Development Ordinance as project areas contain hillside conditions that are defined as slopes greater than 15 feet in height and 15 percent in slope. All development within the project site must comply with the standards contained within the city's Hillside Development Regulations (Chapter 21.95 in the city's Municipal Code), unless otherwise approved by the City of Carlsbad. Details regarding consistency with the city's Hillside Development Regulations can be found in Section 5.1, Aesthetics and Grading. A Hillside Development Permit is required and shall be obtained in conjunction with the development entitlements package.</p>
<p>Policy 2-P.17: Locate commercial land uses as shown on the Land Use Map. Where applications for the re-designation of land to commercial land uses are submitted, these shall be accompanied by a conceptual development plan of the site and a market study that demonstrates the economic viability of using the land in the way being requested, as well as the impact on the viability of commercial uses designated on the Land Use Map that may compete with shared trade areas.</p>	<p>Consistent. The northern portion of the project site is designated by the <i>Carlsbad General Plan</i> as GC. The northern portion will be developed with commercial amenities (restaurant and retail).</p>
<p>Policy 2-P.37: Require new development located in the AIA to comply with applicable land use compatibility provisions of the McClellan– Palomar ALUCP through review and approval of a site development plan or other development permit. Unless otherwise approved by City Council, development proposals must be consistent or conditionally consistent with applicable land use compatibility policies with respect to noise, safety, airspace protection, and overflight notification, as contained in the McClellan-Palomar ALUCP. Additionally, development proposals must meet Federal Aviation Administration requirements with respect to building height as well as the provision of obstruction lighting when appurtenances are permitted to penetrate the transitional surface (a 7:1 slope from the runway primary surface). Consider San Diego County Regional Airport Authority Airport Land Use Commission recommendations in the review of development proposals.</p>	<p>Consistent. The project site is located within the ALUCP's Airport Overflight Notification Area and Review Area 2 of the AIA (San Diego County Regional Airport Authority 2011). Residential properties located in an overflight notification area may be subject to some of the annoyances or inconveniences associated with their proximity to airport operations. The ALUCP requires that all new residential projects located within the overflight notification area be required to record a notice informing of the potential environmental impacts related to the aircraft, and the property is subject to overflight, sight, and sound of aircraft operating from the McClellan-Palomar Airport. Implementation of Mitigation Measure LU-1 would maintain compatibility with the ALUCP and ensure that impacts associated with intermittent airport overflights remain less than significant.</p>



Table 5.10-1. Carlsbad General Plan Consistency Determination Summary

General Plan Goal/Policy	Consistency Determination
Policy 2-P.46: Require new residential development to provide pedestrian and bicycle linkages, when feasible, which connect with nearby shopping centers, community centers, parks, schools, points of interest, major transportation corridors and the Carlsbad Trail System.	Consistent. See response to Goal 2-G.2 above.
Policy 2-P.58: Require compliance with Growth Management Plan public facility performance standards, as specified in the Citywide Facilities and Improvements Plan, to ensure that adequate public facilities are provided prior to or concurrent with development.	Consistent. The LFMP process includes restrictions on the timing and phasing of development in relation to the provision of community services and infrastructure. The city's GMP Policies, which are enforced in the LFMPs, would continue to monitor growth in the area to maintain adequate levels of service for the people living in Carlsbad. With the incorporation of the LFMP process and the city's GMP policies, development cannot proceed until adequate infrastructure is financially guaranteed to meet demand.
Mobility Element	
Goal 3-G.1: Keep Carlsbad moving with livable streets that provide a safe, balanced, cost-effective, multi-modal transportation system (vehicles, pedestrians, bikes, transit), accommodating the mobility needs of all community members, including children, the elderly and the disabled.	Consistent. See response to Goal 2-G.2 above.
Goal 3-G.2: Improve connectivity for residents, visitors, and businesses.	Consistent. See response to Goal 2-G.2 above.
Goal 3-G.3: Provide inviting streetscapes that encourage walking and promote livable streets.	Consistent. See response to Goal 2-G.2 above.
Noise Element	
Goal 5-G.1: Protect public health and welfare by eliminating existing noise problems where feasible, maintaining an acceptable indoor and outdoor acoustic environment, and preventing significant degradation of the acoustic environment.	Consistent. As discussed in Section 5.11, Noise, of the EIR, exterior noise levels would generally exceed the applicable city noise standards (65 dBA CNEL for the commercial zone or 60 dBA CNEL for the residential zone) for exterior use areas along the first, second and third rows with an unobstructed exposure to El Camino Real. Because exterior noise levels are anticipated to exceed 60 dBA CNEL, interior noise levels are anticipated to exceed the State and city interior noise standard of 45 dBA CNEL. The proposed project could also result in a significant impact associated with on-site mechanical noise (HVAC equipment) and noise from rooftop deck activities. However, with implementation of Mitigation Measures NOI-1 through NOI-4, all noise impacts would be reduced to a level less than significant.
Goal 5-G.2: Ensure that new development is compatible with the noise environment, by continuing to use potential noise exposure as a criterion in land use planning.	Consistent. See response to Goal 5-G.1 above.

Table 5.10-1. Carlsbad General Plan Consistency Determination Summary

General Plan Goal/Policy	Consistency Determination
<p>Policy 5-P.6: Discourage the use of berms and sound walls for noise mitigation; rather, encourage the use of project design techniques such as increasing the distance between the noise source and the noise sensitive receiver and use non-noise sensitive structures (e.g., a garage) to shield noise sensitive areas. If a berm or wall is determined necessary to mitigate noise, discourage exclusive use of walls in excess of 6 feet in height and encourage use of natural barriers such as site topography or constructed earthen berms. When walls are determined to be the only feasible solution to noise mitigation, then the walls shall be designed to limit aesthetic impacts. When walls over 6 feet in height are necessary to mitigate noise, a berm/wall combination with heavy landscaping, a terraced wall heavily landscaped, or other similar innovative wall design technique shall be used to minimize visual impacts.</p>	<p>Consistent. To mitigate noise impacts, Mitigation Measure NOI-1 requires a noise barrier for any residential buildings with usable outdoor patio or balcony areas with a direct, unobstructed view of El Camino Real. The noise barriers may be constructed of a material such as tempered glass, acrylic glass (or similar material), masonry material, or manufactured lumber (or a combination of these), with a surface density of at least 3 pounds per square foot. The noise barriers shall have no openings, gaps, or cracks.</p>
<p>Goal 5-G.4: Ensure long-term compatibility between the airport and surrounding land use.</p>	<p>Consistent. The project site is located approximately 1 mile outside of the McClellan-Palomar Airport's 60 dB CNEL noise contour.</p> <p>The ALUCP requires that all new residential projects located within the overflight notification area be required to record a notice informing residents of the potential environmental impacts related to the aircraft, and the property is subject to overflight, sight, and sound of aircraft operating from the McClellan-Palomar Airport. Implementation of Mitigation Measure LU-1 would maintain compatibility with the ALUCP and ensure that impacts associated with intermittent airport overflights remain less than significant.</p>
<p>2013-2021 Housing Element</p>	
<p>Goal 10-G.2: New housing developed with diversity of types, prices, tenures, densities, and locations, and in sufficient quantity to meet the demand of anticipated city and regional growth.</p>	<p>Consistent. See response to Goal 2-G.1 and Goal 2-G4 above.</p>

City of Carlsbad Zoning Ordinance. The project site is zoned RD-M and C-2. No change in the existing zoning is proposed as part of the proposed project. The intent and purpose of the RD-M zone is to implement the residential medium density, residential medium-high density, and residential high density land use designations of the *Carlsbad General Plan* and to provide regulations and standards for the development of residential dwellings. The C-2 zone provides regulations and standards for the development of general commercial uses that serve the local community. Permitted uses in the C-2 zone include a range of retail, wholesale, and service uses, as well as residential uses. The proposed residential and commercial uses are consistent with the RD-M and C-2 zoning designations.

Housing for Senior Citizens (Chapter 21.84 of the CMC). The proposed project will meet the requirements of the Housing for Senior Citizens Ordinance by designating an area within the project site for age restricted affordable housing. The proposed project would develop 46 age-restricted affordable apartments for senior citizens within the GC-designated area of the project site. Housing



for senior citizens with five units or more shall be subject to the approval of a site development plan. The project applicant has applied for a site development plan for the age-restricted affordable housing component of the proposed project. The proposed project would not conflict with Chapter 21.84 of the CMC.

Inclusionary Housing Ordinance (Chapter 21.85 of CMC). In accordance with Chapter 21.85 of the CMC, the proposed project will meet the requirements of the Inclusionary Housing Ordinance by designating an area within the project site for age restricted affordable housing. In accordance with Table A in Section 21.86.040 of the CMC, the proposed project is requesting a 35 percent density bonus. Therefore, 20 percent of the base number of units must be designated for Inclusionary Housing and will be rented to age restricted households in the moderate and lower income levels. As shown in Table 5.10-2, the number of base units is 224 units. At 20 percent of 224 units, the total required inclusionary units must be 45 units as shown in Table 5.10-2. As proposed, the project would provide 46 affordable housing units. The development of the Inclusionary Housing units will comply with Chapter 21.84 – Housing for Senior Citizens. A formal Affordable Housing Agreement shall be prepared and approved by the community and economic development director prior to the approval of the first final map. The proposed project would not conflict with Chapter 21.85 of the CMC.

According to the city's adopted Housing Element (2013-2021), the city's total Regional Housing Needs Assessment (RHNA) is 4,999 units (City of Carlsbad 2015a). The 46 inclusionary units included in the proposed project would add to the city's affordable housing supply consistent with the Housing Element.

Table 5.10-2. Inclusionary Housing Unit Requirement

Inclusionary Housing Calculation	
Base Units - Commercial Area	43 Dwelling Units
Base Units – Residential Area	181 Dwelling Units
Total Base Units	224 Total Base Units
Inclusionary Housing Calculation (20% percent X 224 Base Units)	45 Inclusionary Units

Residential Density Bonus and Incentives or Concessions (Chapter 21.86 of the CMC). The number of total dwelling units proposed on the project site (296 units) exceeds what is allowed on the project site at the upper end of the *Carlsbad General Plan's* allowable density range (224 units). In order to reach the proposed 296 dwellings units, the project applicant would utilize the opportunities provided by state law and the Residential Density Bonus and Incentives or Concession section of the Zoning Ordinance, which implements California Government Code Sections 65915 – 65918). This allows up to a 35 percent increase in the number of units beyond the maximum base level *Carlsbad General Plan* density calculations. The project applicant is requesting 72 density bonus units (8 fewer units than the total allowed under the density bonus provisions [80]), for a total of 296 residential units. In exchange for the density bonus units, the project applicant would provide 46 age-restricted affordable apartments for senior citizens within the GC-designated area of the project site. The proposed project would not conflict with Chapter 21.86 of the CMC.

Coastal Resource Protection Overlay Zone Ordinance (Chapter 21.203 of the CMC). The project's consistency with the CRPOZ Ordinance is provided in Section 5.4, Biological Resources of this EIR.

As discussed in Section 5.4, Biological Resources of this EIR, no significant impact would occur to environmentally-sensitive areas, including coastal wetlands and riparian habitat, as defined in Section 30107.5 of the CCA and the Carlsbad LCP. Therefore, the project would not conflict with the biological resources-related requirements of Chapter 21.203 of the CMC and CRPOZ Ordinance.

Hillside Development Regulations (Chapter 21.95 of the CMC). As described in Chapter 3.0 Project Description, exceptions are being requested to the grading ordinance which triggers the requirement for the HDP. Per CMC § 21.95.040(d)(2), earthwork exceeding 10,000 cubic yards/acre is proposed in order to maintain privacy for adjacent existing homeowners. These exceptions would allow the maximum grading volumes to be exceeded, so that the higher topographical elevations in the southern portion of the site can be reduced, which would maximize the privacy of the existing adjacent homes. The higher topographical elevations of the project site located along the southern portion of the site will be lowered significantly to improve the proposed project's compatibility with the surrounding area. Lowering the topographical elevations along this portion also accommodates the privacy concerns expressed by existing adjacent residents. The lowering of the topography in the southern portion of the site to address privacy concerns results in an increase in the volume of the project site grading.

Growth Management Plan. The proposed project would comply with the provisions of the adopted LFMP with respect to provision of public facilities and services, and includes restrictions on the timing and phasing of development in relation to the provision of community services and infrastructure. The city's GMP Policies, which are enforced in the LFMPs, would continue to monitor growth in the area to maintain adequate levels of service for the people living in Carlsbad. With the incorporation of the LFMP process and the city's GMP policies, development cannot proceed until adequate infrastructure is financially guaranteed to meet demand. The proposed project would not conflict with the GMP.

Environment Ordinance (Title 19 of the CMC). This EIR has been prepared in accordance with the Environment Ordinance. The principles, criteria, and procedures for evaluating the environmental impacts of the proposed project are consistent with the *Carlsbad General Plan* and CEQA. The proposed project would not conflict with the Environment Ordinance.

Subdivisions Ordinance (Title 20 of the CMC). Pursuant to Title 20 of the CMC, the project applicant is requesting approval of a Tentative Tract Map to subdivide the proposed project site. Compliance with the Subdivisions Ordinance is reviewed and ensured under the Tentative Tract Map (CT 16-07) submitted for the project. The proposed project would not conflict with the Subdivisions Ordinance.

Grading and Drainage Ordinances (Title 15 of the CMC). Grading of the project site is subject to the Grading and Drainage Ordinance. The project applicant will be required to apply for a grading permit. Each application submittal for a grading permit shall be accompanied by city approved grading plans, SWMP, SWPPP and other such documentation and information as may be necessary to demonstrate that the grading work will be carried out in substantial compliance with all city codes, city standards and the requirements of the landscape manual. The proposed project would not conflict with the Grading and Drainage Ordinances.

California Building Code (Title 18 of the CMC). The proposed project would comply with the CBC during design, grading, and construction phases, which would be verified during project plan check. The proposed project would not conflict with the CBC.

Fire Prevention Code (Title 17 of the CMC). The proposed project would comply with the provisions of the Fire Prevention Code. Provisions of the code that pertain to the proposed project include minimum fire flow, sprinkler systems, fire hydrant locations, and access. Compliance with the Fire Prevention Code would be verified during project plan check. The proposed project would not conflict with the Fire Prevention Code.

City Council Policy 43. The project applicant is requesting a withdrawal of 161 dwelling units from the city's Excess Dwelling Unit Bank. As of June 30, 2018, the Excess Dwelling Unit Bank has 2,346 potential additional dwelling units available to allocate citywide. With regards to the Quadrant Caps, as of June 30, 2018, there are 704 potential additional dwelling units available for the Northwest Quadrant. The proposed project's 296 residential units would not exceed the Northwest Quadrant's remaining future unit limits established by the Growth Management Plan and Proposition E. The proposed project is consistent with Council Policy 43.

Landscape Manual. The policies, programs, and requirements of the city's Landscape Manual apply to all public and private development requiring discretionary permits or submittal of landscape plans for development permits. The proposed project is required to comply with the provisions of the Landscape Manual with respect to planting, irrigation, water conservation, streetscape, slope revegetation/erosion control, and fire protection. Furthermore, the city will review detailed landscape construction plans at the time permits are applied for as part of the subsequent development of the project. The proposed project is consistent with the Landscape Manual.

El Camino Real Corridor Development Standards. The project site is located adjacent to El Camino Real, which is the designated local scenic corridor. Thus, the proposed project is within the Scenic Preservation Overlay and subject to the El Camino Real Corridor Development Standards (Standards). Compliance with the Standards is reviewed and ensured under the SUP (SUP 16-02) submitted for the project. The project has been reviewed by city staff with respect to applicable Standards provisions including landscaping and setbacks, and has determined that the project is consistent with these Standards.

Livable Neighborhoods Design Guidelines (Council Policy No. 66). The proposed project includes residential development in a location that is central to urban land uses and services; including nearby education (Kelly Elementary School) and recreation (Laguna Riviera City Park). The proposed project would provide active and passive recreational opportunities, pedestrian connections within the neighborhood to the various amenities, and a local commercial center to serve the neighborhood. The proposed project would encourage the use of non-motorized transportation. All private streets will contain sidewalks for safe pedestrian circulation. Other sidewalks and pathways will be provided for internal pedestrian circulation between the residential areas, commercial area, and recreational areas. Sidewalks are also included throughout the roadway network within the immediate project area. Furthermore, the following bike lanes currently exist within the immediate area: El Camino Real (Class II), Tamarack Avenue (Class II), Kelly Drive (Class II), and Cannon Road (Class II). Based on these considerations, the proposed project is consistent with the Livable Neighborhoods Design Guidelines.

City of Carlsbad Local Coastal Program. The project site is located with the Mello II Segment of the Carlsbad LCP. Consistent with the *Carlsbad General Plan*, the Land Use Plan has designated the project site as R-15 and GC. The existing zoning designation on the LCP Zoning Map is RD-M and C-2 (consistent with the city's Zoning Map). The project is not proposing to amend the LCP Land Use and Zoning Maps. The proposed land uses on the project site are allowable uses per the *Carlsbad General Plan* and LCP.

Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines. The proposed project's potential impacts on tribal, cultural, and paleontological resources is discussed in Section 5.5, Cultural Resources, of this EIR. The city has complied with the AB 52 consultation requirements as set forth in the guidelines. The proposed project would not conflict with these guidelines.

McClellan Palomar Airport Land Use Compatibility Plan. Based on a review of Exhibit III-2 - Compatibility Policy Map: Safety of the McClellan-Palomar ALUCP, the project site is not located

within any airport safety zones as designated in the ALUCP (San Diego County Regional Airport Authority 2011). The project site is located within the ALUCP's Airport Overflight Notification Area and Review Area 2 of the AIA.

The ALUCP requires that all new residential projects located within the overflight notification area be required to record a notice informing residents of the potential environmental impacts related to the aircraft, and the property is subject to overflight, sight, and sound of aircraft operating from the McClellan-Palomar Airport. Implementation of Mitigation Measure LU-1 would maintain compatibility with the ALUCP and ensure that impacts associated with intermittent airport overflights remain less than significant.

Impact 5.10-3 Consistency with Habitat Conservation Plan

Would the proposed project conflict with any applicable habitat conservation plan or natural community conservation plan?

A detailed discussion of the project's compliance with the city's HMP is discussed in Section 5.4, Biological Resources, of this EIR. In summary, the project site is located outside of any HMP core, linkages and SRA areas. No HMP designations occur on or immediately adjacent to the project site. No suitable habitat for HMP species occurs on site, and impacts are restricted to non-sensitive, HMP Group F habitat types and developed land. The analysis indicates that the proposed project would be consistent with the Carlsbad HMP. This is considered a less than significant impact.

5.10.4 Level of Significance before Mitigation

The project site is located within the McClellan-Palomar ALUCP's Airport Overflight Notification Area and Review Area 2 of the AIA. Residential properties located in an overflight notification area may be subject to some of the annoyances or inconveniences associated with their proximity to airport operations. The ALUCP requires that all new residential projects located within an overflight notification area be required to record a notice informing of the potential environmental impacts related to the airport, and the property is subject to overflight, sight, and sound of aircraft operating from the McClellan-Palomar Airport.

5.10.5 Environmental Mitigation Measures

LU-1 New residents within the McClellan-Palomar Airport Overflight Notification Area as defined by the ALUCP shall be notified as part of the real estate disclosure package that the project site is outside the 60 dB(A) CNEL airport noise impact area, but still subject to intermittent single-event noise impacts, sight, and sound of aircraft operating from McClellan-Palomar Airport. The state statute dictates that the following statement shall be provided:

NOTICE OF AIRPORT IN VICINITY: This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

This measure shall be implemented concurrent with the real estate disclosure package. Prior to issuance of building permits, the City of Carlsbad Planning Division shall be responsible for verification of implementation of this measure through the recordation of a Notice.

5.10.6 Level of Significance after Mitigation

Implementation of Mitigation Measure LU-1 would maintain compatibility with the McClellan-Palomar Airport and ensure that impacts associated with intermittent airport overflights remain less than significant.

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5.11 Noise

This section summarizes the existing noise conditions, describes the regulatory framework, and discusses potential impacts from noise as a result of implementation of the proposed project. The following technical study analyzes the potential impacts from the proposed project:

- *Noise Technical Report for the Marja Acres Community Plan* (Dudek 2018) (Appendix I of this EIR)

The technical appendices are included on the attached CD found on the back cover of this EIR. Additional background was also obtained from the *Carlsbad General Plan* (City of Carlsbad 2015a).

5.11.1 Existing Conditions

Noise Definitions and Criteria

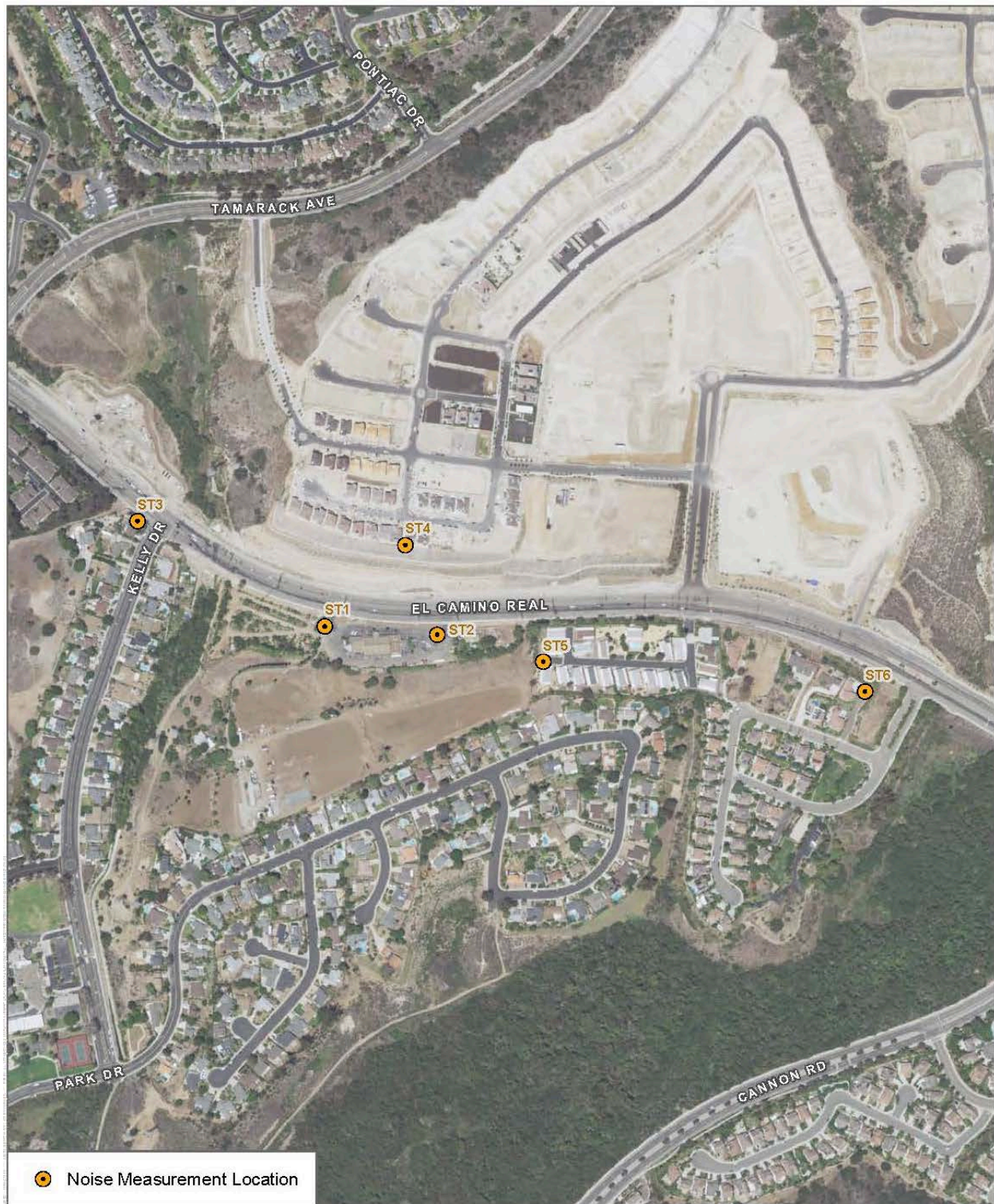
Sound is mechanical energy transmitted by pressure waves in a compressible medium, such as air. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired. The sound-pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of measurement of sound pressure is a decibel (dB). Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dB when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dB. A change of 5 dB is readily perceptible, and a change of 10 dB is perceived as twice or half as loud. A doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a road) would result in a barely perceptible change in sound level.

Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called “A-weighting,” the measurement of which is expressed as dBA. Hourly average noise levels are usually expressed as dBA L_{eq} or the equivalent noise level over that period of time. Therefore, all sound levels discussed in this section are A-weighted. Because community receptors are more sensitive to noise intrusion during the evening and at night, state law requires that an artificial dBA increment be added to quiet-time noise levels in 24-hour noise metrics such as the Community Noise Equivalent Level or CNEL or day-night noise level (L_{dn}).

Existing Noise Environment

Noise measurements were conducted on and near the project site in December 2017 to characterize the existing noise environment. Six noise measurement locations (ST1–ST6) which represent key potential sensitive receptors or sensitive land uses were selected on, adjacent to, or near the project site. The measurement locations are shown on Figure 5.11-1, and the measured average noise levels and measurement locations are provided in Table 5.11-1. The primary noise sources at the measurement locations consisted of traffic along the adjacent roads (i.e., El Camino Real) and existing construction noise associated with the Robertson Ranch development.

Figure 5.11-1. Noise Measurement Locations



Source: Appendix I of this EIR



Table 5.11-1. Measured Noise Levels

Receptors	Location/Address	Time	L _{eq} (dBA)	L _{max} (dBA)
ST1	100 feet west of Country Wine & Spirits Carlsbad	10:19 a.m. – 10:29 a.m.	55.6	62.1
ST2	100 feet west of Plant Play	10:34 a.m. – 10:44 a.m.	59.9	75.9
ST3	4805 Kelly Drive	10:04 a.m. – 10:14 a.m.	61.6	73.9
ST4	Residents south of La Paz Court	11:04 a.m. – 11:14 a.m.	53.6	66.4
ST5	2282 Julie Place	10:49 a.m. – 10:59 a.m.	51.9	68.5
ST6	4998 Eucalyptus Lane	11:34 a.m. – 11:44 a.m.	58.7	64.6

Source: Appendix I of this EIR

Notes:

dBA=A-weighted decibel; L_{eq}=equivalent continuous sound level; L_{max}=Instantaneous maximum noise level for a specified period of time

5.11.2 Regulatory Setting

State

California Code of Regulations, Title 24

The CCR, Title 24, Noise Insulation Standards, states that multifamily dwellings, hotels, and motels located where the CNEL exceeds 60 dBA must obtain an acoustical analysis showing that the proposed design would limit interior noise to less than 45 dBA CNEL. The maximum noise levels, either existing or future, must be used for this determination. Future noise levels must be predicted at least 10 years from the time of building permit application.

Local

Carlsbad Noise Guidelines Manual

The city's Noise Guidelines Manual is primarily intended to address community noise issues related to land use. The *Carlsbad General Plan* Noise Element policies are summarized, the science of noise is summarized, procedures for the processing of a project are explained, preferred methods for the mitigation of noise are listed, and a preferred noise report format is presented. Additionally, typical conditions of approval are listed. The Noise Guidelines Manual does not address noise issues such as animal noise, noise from parties and loud gatherings, motor vehicle noise, or general nuisance noise, for which the best resource is the Carlsbad Municipal Code Noise Ordinance (Carlsbad Municipal Code, Chapter 8.48).

Carlsbad Municipal Code

Carlsbad Municipal Code Chapter 8.48 outlines regulations for limitation of hours for construction (i.e., the erection, demolition, alteration, or repair of any building or structure or the grading or excavation of land) that creates disturbing, excessive, or offensive noise. Construction can occur Monday through Friday from 7:00 a.m. to 6:00 p.m. and Saturday 8:00 a.m. to 6:00 p.m.; no work shall be conducted on Sundays or on federal holidays. Carlsbad Municipal Code Chapter 8.48 also outlines exceptions

that may be granted by the city for circumstances such as emergency repairs required to protect the health and safety of the community.

Carlsbad Municipal Code Section 21.34.090 specifies that the maximum allowable exterior noise level of any industrial use shall not exceed 65 dBA day/night average sound level (L_{dn}) as measured at the property line. If the industrial use occupies a building with more than one use, the noise level shall not be in excess of 45 dBA L_{dn} as measured within the interior space of the neighboring establishment. Similarly, the noise levels in the loading areas and docks of shopping centers should not exceed 65 dBA CNEL at the shopping center's property line, according to Carlsbad Municipal Code Section 21.31.080, Development Standards.

Carlsbad General Plan Noise Standards

The *Carlsbad General Plan* Noise Element includes several standards for noise.

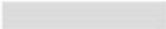



Community Noise Exposure. Table 5.11-2 (reproduced from City of Carlsbad 2015a, Table 5-1) presents the community noise exposure matrix, establishing criteria the city shall use to evaluate land use compatibility based on noise emanating from all sources.

Allowable Noise Exposure. Table 5.11-3 (reproduced from City of Carlsbad 2015a, Table 5-2) presents acceptable limits of noise for various land uses for both exterior and interior environments from transportation sources. Although Table 5.11-3 establishes standards to help the city establish the appropriateness of locating specific uses in noise-sensitive environments, Table 5.11-3 provides standards that development shall attain through noise attenuation measures. These limits are based on guidelines provided by the California Office of Planning and Research.

As shown in Table 5.11-3, the allowable noise exposure for residential land uses is 60 dBA CNEL in outdoor activity areas, and 45 dBA CNEL in habitable interior spaces (i.e., living rooms, bedrooms, etc.); for mixed-use projects, the allowable noise exposure for residential land uses is 65 dBA CNEL in outdoor activity areas. For the proposed project, the 65 dBA CNEL outdoor activity area standard would be applicable to the residential uses within the portion of the project site designated as "Commercial Zone", while the 60 dBA CNEL outdoor activity area standard would be applicable to the residential uses within the remainder of the project site (as shown on Figure 5.11-2).

Similarly, Table 5.11-4 provides city standards for noise from non-transportation noise sources such as industrial facilities, equipment yards, automotive servicing, and on-site equipment and machinery such as heating, ventilation, and air conditioning (HVAC) equipment. These standards apply to the noise sources themselves, as measured at the edge of the property line; noise caused by motor vehicles traveling to and from the site is exempt from this standard.

Table 5.11-2. Land Use Compatibility for Community Noise Environments

Land Use Category	Exterior Day/Night Noise Levels DNL or Ldn, dB						INTERPRETATION
	55	60	65	70	75	80	
Residential– Single Family							 Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
Residential– Multiple Family							
Transient Lodging– Motels, Hotels							
Schools, Libraries, Churches, Hospitals*, Nursing Homes							 Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.
Auditoriums, Concert Halls, Amphitheaters							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Parks							 Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Industrial, Manufacturing,							 Clearly Unacceptable: New construction or development clearly should not be undertaken.

Source: City of Carlsbad 2015a

Table 5.11-3. Allowable Noise Exposure¹

Land Use	Outdoor Activity ^{2,3} Areas (dBA CNEL)	Interior Spaces (dBA CNEL)
Residential	604	45
Motels, Hotels	65	45
Hospitals, Residential Care Facilities, Schools, Libraries, Museums, Churches, Day Care Facilities	65	45
Playgrounds, Parks, Recreation Uses	65	50
Commercial and Office Uses	65	50
Industrial Uses	70	65

Source: City of Carlsbad 2015a

Notes:

- ¹ Development proposed within the McClellan-Palomar Airport Area of Influence shall also be subject to the noise compatibility policies contained in the ALUCP.
- ² For non-residential uses, where an outdoor activity area is not proposed, the standard does not apply. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving use.
- ³ Where it is not possible to reduce noise in outdoor activity areas to the allowable maximum, levels up to 5 dB higher may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
- ⁴ An exterior noise exposure level of 65 dBA CNEL is allowable for residential uses in a mixed-use project and for residential uses within the McClellan-Palomar Airport Area of Influence, pursuant to the noise compatibility policies contained in the ALUCP.

dBA=A-weighted decibel; CNEL=community noise equivalent level

Table 5.11-4. Performance Standards for Non-Transportation Sources (As Measured at Property Line of Source/Sensitive Use)

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq} , dB	55	45
Maximum Level, dB	75	65

Source: City of Carlsbad 2015a

Notes:

Each of the noise levels specified above shall be lowered by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

dB=decibel; L_{eq} =equivalent continuous sound level

5.11.3 Project Impacts

Thresholds of Significance

Appendix G of the CEQA Guidelines is used to provide direction for determination of a significant noise impact from the proposed project. For the purpose of this EIR, a significant impact would occur if the proposed project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels

Impact Analysis

Impact 5.11-1 Conflict with Noise Standards

Would the proposed project produce noise levels in excess of established noise standards and existing ambient noise levels?

Implementation of the proposed project would result in two primary types of potential noise impacts: short-term noise during construction and long-term noise during operation of the residential project.

Construction

The construction activities for the proposed project would include demolition of existing structures, clearing and grubbing, mass excavation of soils, utilities installation, grading and trenching of the project site, building construction, paving, and application of architectural coatings. Noise impacts from construction activities associated with the proposed project would be a function of the noise generated by construction equipment, locations of equipment and of nearby land uses, and the timing and duration of the construction activities. The nearest sensitive receptors to the project site are single-family homes located to the east of the project site. Residential land uses are also located slightly further to the north, west and south of the project site.

The range of maximum noise levels for various types of construction equipment at a distance of 50 feet is depicted in Table 5.11-5. The noise values represent maximum noise generation, or full-power operation of the equipment. As an example, a loader and two dozers, all operating at full power and relatively close together, would generate a maximum sound level of approximately 90 dBA at 50 feet from their operations. As one increases the distance between equipment, and/or the separation of areas with simultaneous construction activity, dispersion, and distance attenuation reduce the effects

of separation noise sources added together. In addition, typical operating cycles may involve 2 minutes of full-power operation, followed by 3 or 4 minutes at lower levels. The average noise level during construction activity is generally lower, since maximum noise generation may only occur up to 50 percent of the time. Noise levels from construction operations decrease at a rate of approximately 6 dBA per doubling of distance from the source.

The nearest point of major construction activities (i.e., excavation, utilities work, building construction) to the closest noise-sensitive receivers (single-family residences located to the east) would be approximately 50 feet and the furthest would be approximately 1,200 feet. The nearest noise-sensitive receivers are located approximately 250 feet away from the acoustic center of major construction activity (the idealized point from which the energy sum of all construction activity noise near and far would be centered). Thus, the distance to the nearest major construction activities would be approximately 50 feet, but construction would typically occur approximately 250 feet or more away from the closest noise-sensitive receivers.

The Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at these noise-sensitive land uses. Although the model was funded and promulgated by the FHWA, the RCNM is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are also used for other project types. Input variables for the RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling of construction noise.

No construction noise threshold level (in dBA) has been established by the City. However, for the purposes of this EIR, a 75-dBA Leq-8h threshold has been applied since this standard is used by both the County and City of San Diego. A significant impact would occur if noise from construction equipment exceeds an average sound level of 75 dBA Leq for an eight-hour period (Leq-8h), when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

The noise levels from the proposed construction activities are summarized in Table 5.11-6. As shown in Table 5.11-6, typical construction noise levels at the adjacent residences would range from approximately 54 to 72 dBA Leq. At the nearest residences, noise levels would range from approximately 63 to 84 dBA Leq when construction would take place at or near the project boundary. Therefore, the expected construction noise level at the nearest residences could exceed the County of San Diego construction noise threshold of 75-dBA Leq-8h. This potential impact is considered a significant impact.

Table 5.11-5. Construction Equipment Noise Levels

Construction Equipment	Typical Sound Level (dBA) 50 Feet from Source
Roller	74
Concrete vibrator	76
Pump	76
Saw	76
Backhoe	80
Air compressor	81

Table 5.11-5. Construction Equipment Noise Levels

Construction Equipment	Typical Sound Level (dBA) 50 Feet from Source
Generator	81
Compactor	82
Concrete pump	82
Crane, mobile	83
Concrete mixer	85
Dozer	85
Grader	85
Impact wrench	85
Loader	85
Pneumatic tool	85
Jackhammer	88
Truck	88
Paver	89

Source: Appendix I of this EIR

Notes:

dBA=A-weighted decibel

Table 5.11-6. Construction Noise Model Results Summary

Construction Phase	Construction Noise at Representative Receiver Distances (Leq (dBA))	
	Nearest Construction Work	Typical Construction Work
Demo Structures and Improvements	69	61
Haul Off Demo Debris	63	55
Clear and Grub	83	68
Remedial & Mass Excavation	84	72
Export Excavation	78	67
Wet Utilities	82	70
Dry Utilities	78	68
Street Improvements – Balancing, Aggregate	76	64
Street Improvements – Curb & Gutter	67	55
Street Improvements – Asphalt Paving	75	63
Street Improvements – Concrete Flatwork	69	57
Building Construction - 1	76	64
Building Construction - 2	68	54

Table 5.11-6. Construction Noise Model Results Summary

Construction Phase	Construction Noise at Representative Receiver Distances (Leq (dBA))	
	Nearest Construction Work	Typical Construction Work
Building Construction - 3	68	54
Architectural Coatings	77	65

Source: Appendix I of this EIR

Notes:

dBA=A-weighted decibels; Leq=equivalent sound level

Section 8.48.010 of the CMC exempts noise associated with construction activity as long as it occurs within the permitted hours. Construction will be limited to the hours between 7:00 a.m. and 6:00 p.m. on weekdays and between 8:00 a.m. and 6:00 p.m. on Saturdays in accordance with the CMC. No construction activity is allowed on Sundays and federal holidays. In addition to compliance with the CMC, the following standard conditions will be implemented to reduce potential construction noise impacts on nearby sensitive receptors:

- The project contractor shall, to the extent feasible, schedule construction activities to avoid the simultaneous operation of construction equipment so as to minimize noise levels resulting from operating several pieces of high noise level emitting equipment.
- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers. Enforcement shall be accomplished by random field inspections by applicant personnel during construction activities, to the satisfaction of the City of Carlsbad Engineering Services Department.
- Construction noise reduction methods such as shutting off idling equipment, construction of a temporary noise barrier, maximizing the distance between construction equipment staging areas and adjacent residences, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive receptors.
- Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners to contact the job superintendent if necessary. In the event the City of Carlsbad receives a complaint, appropriate corrective actions shall be implemented and a report of the action provided to the reporting party.

Compliance with the construction hours specified in the CMC in combination with other equipment-related standard condition measures identified above would result in less than significant noise impacts during project construction.

Operation

The proposed project would result in the creation of additional vehicle trips on local arterial roadways (i.e., El Camino Real), which could result in increased traffic noise levels at adjacent noise-sensitive land uses. Additionally, the proposed age-restricted affordable apartment units and townhomes would



be adjacent to or otherwise exposed to noise from traffic on El Camino Real, which could result in noise levels in excess of city standards.

The proposed age-restricted affordable apartment units and townhomes would have balconies and/or patios with a direct exposure of El Camino Real. Additionally, some of the large townhomes are proposed to have optional rooftop decks. These private exterior use areas could have traffic noise exposures in excess of applicable city standards. The outdoor passive and active recreational areas could similarly exceed city standards for exterior use areas. In addition, the interior residential uses could be exposed to traffic noise levels exceeding city and state noise standards for habitable rooms (45 dBA CNEL). In addition to potential traffic noise impacts, noise from on-site HVAC equipment has the potential to exceed applicable noise standards.

Off-Site Traffic Noise

The proposed project would add additional traffic along adjacent roadways, in particular El Camino Real. Potential noise effects from vehicular traffic were assessed using the Federal Highway Administration's Traffic Noise Model (TNM) version 2.5 (FHWA 2004). Information used in the model included the site geometry, existing (Year 2018), existing (Year 2018) plus project, existing plus cumulative without project, and existing plus cumulative with project traffic volumes (provided in the project's Traffic Impact Analysis (Appendix J of this EIR) and posted traffic speeds. Noise levels were modeled at representative noise-sensitive receivers ST3 through ST6, as shown on Figure 5.11-1. The receivers were modeled to be 5 feet above the local ground elevation. The noise model results are summarized in Table 5.11-7. The city does not have a specific noise criterion for evaluating off-site noise impacts to residences or noise-sensitive areas from project-related traffic. For the purposes of this noise analysis, such impacts are considered significant when they cause an increase of 5 dB from existing noise levels or cause an exceedance of the 60 dBA CNEL noise threshold. An increase or decrease in noise level of at least 5 dB is required before any noticeable change in community response would be expected (Appendix I of this EIR).

Table 5.11-7 shows that the maximum noise level increase would be 0 dB (when rounded to whole numbers). There would be no measurable or audible change, and the impact is, therefore, less than significant. At ST5, the predicted noise levels would decrease with the proposed project. This is because of the acoustical shielding provided from traffic noise at this location by the intervening project structures to the west. Based upon these results, off-site traffic noise impacts would be less than significant.

Table 5.11-7. Off-Site Traffic Noise Modeling Results

Modeled Receiver #	Existing (2018) Noise Level (dBA CNEL)	Existing (2018) with Project Noise Level (dBA CNEL)	Existing plus Cumulative without Project Noise Level (dBA CNEL)	Existing plus Cumulative plus Project Noise Level (dBA CNEL)	Maximum Noise Level Increase (dB)
ST3	63	63	63	63	0
ST4	54	54	54	54	0
ST5	55	53	56	54	-2
ST6	60	60	60	60	0

Source: Appendix I of this EIR

Notes:

dB=decibel; dBA=A-weighted decibel; CNEL=community noise equivalent level

On-Site Traffic Noise

The proposed residences located within the portion of the project site designated as “Commercial Zone” is considered mixed-use and is subject to the noise standard for mixed-use residential of 65 dBA CNEL. The remainder of the residences and associated exterior uses are subject to the noise standard of 60 dBA CNEL. On-site traffic noise with the proposed project was assessed using the TNM noise model. The modeled on-site receiver locations shown on Figure 5.11-2 consisted of the proposed common recreation areas, the three levels of the project’s exterior residential structures (consisting of age-restricted affordable apartment units and townhomes), and the optional rooftop decks which are proposed for some of the townhomes.

Table 5.11-8 identifies the modeled on-site receivers that are expected to exceed the city’s exterior noise standards. The complete results of the noise analysis for traffic noise levels at proposed on-site receivers is provided in Appendix I of this EIR.

The results of the noise modeling indicate that on-site noise levels would range from approximately 34 dBA CNEL (at receiver M87) to approximately 71 dBA CNEL (at receivers M8 - M10, M18 - M21, M30 and M31). At the proposed exterior recreation areas (receivers M1 – M7), noise levels are estimated to range from approximately 48 to 58 dBA CNEL, and thus would not exceed the city’s 60 dBA CNEL noise standard.

At the age-restricted affordable apartment units and townhome façade locations, exterior noise levels would generally exceed the applicable city noise standards for exterior use areas along the first, second and third rows with an unobstructed exposure to El Camino Real (Table 5.11-8). If usable private outdoor areas (i.e., patios, balconies, or rooftop decks) are constructed at these locations, a noise-attenuating barrier would be required to comply with the city’s exterior noise standard of 65 dBA CNEL for the commercially-zoned area or 60 dBA CNEL for the residentially-zoned area (as denoted by shading in Table 5.11-8 and as shown on Figure 5.11-3). Similarly, for many of the rooftop deck locations, the city’s 60 dBA CNEL exterior noise standard would be exceeded. This potential impact would be considered a significant noise impact. In order to achieve the desired noise reduction (a minimum of 1 dB to 2 dB reduction up to approximately 11 dB, at receivers M30 and M31), noise barriers with a minimum height of 5 feet and a maximum height of 7 feet would be constructed along the lengths of the patio or balcony areas. The resultant noise levels with mitigation in the form of noise barriers is shown in Table 5.11-9. The noise barriers may be constructed of a material such as tempered glass, acrylic glass (or similar material), masonry material, or manufactured lumber (or a combination of these) with a surface density of at least 3 pounds per square foot. The noise barriers should have no openings or cracks. Implementation of Mitigation Measure NOI-1 would reduce the potential noise impact to a level less than significant. As shown in Table 5.11-9, the mitigated noise levels would meet the city’s noise standard of 65 dBA CNEL for the commercially-zoned area or 60 dBA CNEL for the residentially-zoned area, and the impacts would be reduced to a level less than significant.



Table 5.11-8. On-Site Existing Plus Cumulative Plus Project Traffic Noise Modeling Results

Modeled Receiver #	Applicable Exterior Noise Standard	Traffic Noise Level (dBA CNEL)			
		1st Level	2nd Level	3rd Level	Rooftop Deck
M1 – Common Rec Area 1	65	54	n/a	n/a	n/a
M2 – Common Rec Area 2	65	48	n/a	n/a	n/a
M3 – Common Rec Area 3	65	49	n/a	n/a	n/a
M4 – Common Rec Area 4	65	51	n/a	n/a	n/a
M5 – Common Rec Area 5	65	49	n/a	n/a	n/a
M6 – Common Rec Area 6	65	50	n/a	n/a	n/a
M7 – Common Rec Area 7	65	58	n/a	n/a	n/a
M8 – Age-Restricted Affordable Apartment	65	70	71	70	n/a
M9 – Age-Restricted Affordable Apartment	65	70	71	71	n/a
M10 – Age-Restricted Affordable Apartment	65	70	71	71	n/a
M11 – Age-Restricted Affordable Apartment	65	65	65	66	n/a
M12 – Age-Restricted Affordable Apartment	65	63	64	65	n/a
M13 – Age-Restricted Affordable Apartment	65	61	62	63	n/a
M14 – Age-Restricted Affordable Apartment	65	40	42	46	n/a
M15 – Age-Restricted Affordable Apartment	65	35	39	40	n/a
M16 – Age-Restricted Affordable Apartment	65	39	41	44	n/a
M17 – Age-Restricted Affordable Apartment	65	58	59	59	n/a
M18 – Small Townhomes	65	70	71	71	n/a
M19 – Small Townhomes	65	70	71	71	n/a
M20 – Small Townhomes	65	70	71	71	n/a
M21 – Small Townhomes	65	70	71	71	n/a
M22 – Small Townhomes	65	66	67	67	n/a
M23 – Small Townhomes	65	65	65	66	n/a
M24 – Small Townhomes	65	63	64	65	n/a
M25 – Small Townhomes	65	n/a	58	59	n/a
M26 – Small Townhomes	65	n/a	60	61	n/a
M27 – Small Townhomes	65	42	45	46	n/a

Table 5.11-8. On-Site Existing Plus Cumulative Plus Project Traffic Noise Modeling Results

Modeled Receiver #	Applicable Exterior Noise Standard	Traffic Noise Level (dBA CNEL)			
		1st Level	2nd Level	3rd Level	Rooftop Deck
M28 – Small Townhomes	65	38	42	44	n/a
M29 – Large Townhomes	60	66	67	67	n/a
M30 – Large Townhomes	60	70	71	71	n/a
M31 – Large Townhomes	60	70	71	71	n/a
M32 – Large Townhomes	60	n/a	55	56	n/a
M33 – Rooftop Deck	60	n/a	n/a	n/a	70
M34 – Large Townhomes	60	63	65	65	n/a
M35 – Large Townhomes	60	n/a	56	56	n/a
M36 – Large Townhomes	60	61	62	62	n/a
M37 – Rooftop Deck	60	n/a	n/a	n/a	65
M38 – Large Townhomes	60	n/a	60	65	n/a
M39 – Large Townhomes	60	57	57	60	n/a
M40 – Rooftop Deck	60	n/a	n/a	n/a	63
M41 – Large Townhomes	60	n/a	59	60	n/a
M42 – Large Townhomes	60	41	45	46	n/a
M43 – Rooftop Deck	60	n/a	n/a	n/a	60
M44 – Large Townhomes	60	52	53	56	n/a
M45 – Large Townhomes	60	44	50	57	n/a
M46 – Large Townhomes	60	56	58	61	n/a
M47 – Large Townhomes	60	56	63	63	n/a
M48 – Large Townhomes	60	n/a	49	49	n/a
M49 – Rooftop Deck	60	n/a	n/a	n/a	61
M50 – Rooftop Deck	60	n/a	n/a	n/a	63
M51 – Rooftop Deck	60	n/a	n/a	n/a	64
M52 – Large Townhomes	60	57	61	63	n/a
M53 – Large Townhomes	60	58	60	62	n/a
M54 – Large Townhomes	60	n/a	38	41	n/a
M55 – Rooftop Deck	60	n/a	n/a	n/a	63
M56 – Rooftop Deck	60	n/a	n/a	n/a	63
M57 – Small Townhomes	60	58	59	60	n/a
M58 – Small Townhomes	60	59	59	60	n/a
M59 – Small Townhomes	60	57	58	59	n/a
M60 – Small Townhomes	60	n/a	42	49	n/a
M61 – Large Townhomes	60	n/a	42	43	n/a



Table 5.11-8. On-Site Existing Plus Cumulative Plus Project Traffic Noise Modeling Results

Modeled Receiver #	Applicable Exterior Noise Standard	Traffic Noise Level (dBA CNEL)			
		1st Level	2nd Level	3rd Level	Rooftop Deck
M62 – Large Townhomes	60	n/a	38	41	n/a
M63 – Large Townhomes	60	50	50	50	n/a
M64 – Rooftop Deck	60	n/a	n/a	n/a	52
M65 – Large Townhomes	60	45	45	45	n/a
M66 – Large Townhomes	60	40	40	42	n/a
M67 – Large Townhomes	60	44	44	45	n/a
M68 – Large Townhomes	60	46	46	47	n/a
M69 – Rooftop Deck	60	n/a	n/a	n/a	53
M70 – Large Townhomes	60	n/a	68	41	n/a
M71 – Large Townhomes	60	36	37	40	n/a
M72 – Large Townhomes	60	38	38	40	n/a
M73 – Rooftop Deck	60	n/a	n/a	n/a	53
M74 – Large Townhomes	60	36	37	41	n/a
M75 – Large Townhomes	60	37	37	40	n/a
M76 – Large Townhomes	60	42	42	43	n/a
M77 – Large Townhomes	60	n/a	45	48	n/a
M78 – Large Townhomes	60	n/a	45	46	n/a
M79 – Rooftop Deck	60	n/a	n/a	n/a	52
M80 – Large Townhomes	60	n/a	54	55	n/a
M81 – Large Townhomes	60	54	55	56	n/a
M82 – Rooftop Deck	60	n/a	n/a	n/a	58
M83 – Small Townhomes	60	55	57	57	n/a
M84 – Small Townhomes	60	50	55	55	n/a
M85 – Small Townhomes	60	46	52	54	n/a
M86 – Small Townhomes	60	n/a	53	54	n/a
M87 – Small Townhomes	60	34	37	39	n/a
M88 – Small Townhomes	60	40	45	46	n/a
M89 – Small Townhomes	60	42	42	43	n/a
M90 – Small Townhomes	60	41	45	46	n/a
M91 – Small Townhomes	60	51	55	55	n/a
M92 – Small Townhomes	60	49	52	53	n/a
M93 – Small Townhomes	60	49	52	53	n/a
M94 – Large Townhomes	60	59	60	60	n/a
M95 – Rooftop Deck	60	n/a	n/a	n/a	61

Table 5.11-8. On-Site Existing Plus Cumulative Plus Project Traffic Noise Modeling Results

Modeled Receiver #	Applicable Exterior Noise Standard	Traffic Noise Level (dBA CNEL)			
		1st Level	2nd Level	3rd Level	Rooftop Deck
M96 – Large Townhomes	60	n/a	59	59	n/a
M97 – Large Townhomes	60	n/a	53	54	n/a
M98 – Large Townhomes	60	49	50	51	n/a
M99 – Rooftop Deck	60	n/a	n/a	n/a	60
M100 – Large Townhomes	60	55	57	57	n/a
M101 – Large Townhomes	60	n/a	49	49	n/a
M102 – Large Townhomes	60	n/a	54	55	n/a
M103 – Rooftop Deck	60	n/a	n/a	n/a	57
M104 – Large Townhomes	60	50	50	50	n/a
M105 – Rooftop Deck	60	n/a	n/a	n/a	54
M106 – Large Townhomes	60	52	51	51	n/a
M107 – Large Townhomes	60	51	50	50	n/a
M108 – Rooftop Deck	60	n/a	n/a	n/a	51
M109 – Large Townhomes	60	48	48	47	n/a
M110 – Large Townhomes	60	49	50	50	n/a
M111 – Rooftop Deck	60	n/a	n/a	n/a	51
M112 – Small Townhomes	60	49	50	50	n/a
M113 – Small Townhomes	60	49	49	49	n/a
M114 – Small Townhomes	60	51	51	51	n/a
M115 – Small Townhomes	60	51	51	51	n/a
M116 – Small Townhomes	60	50	50	50	n/a
M117 – Small Townhomes	60	49	49	51	n/a

Source: Appendix I of this EIR

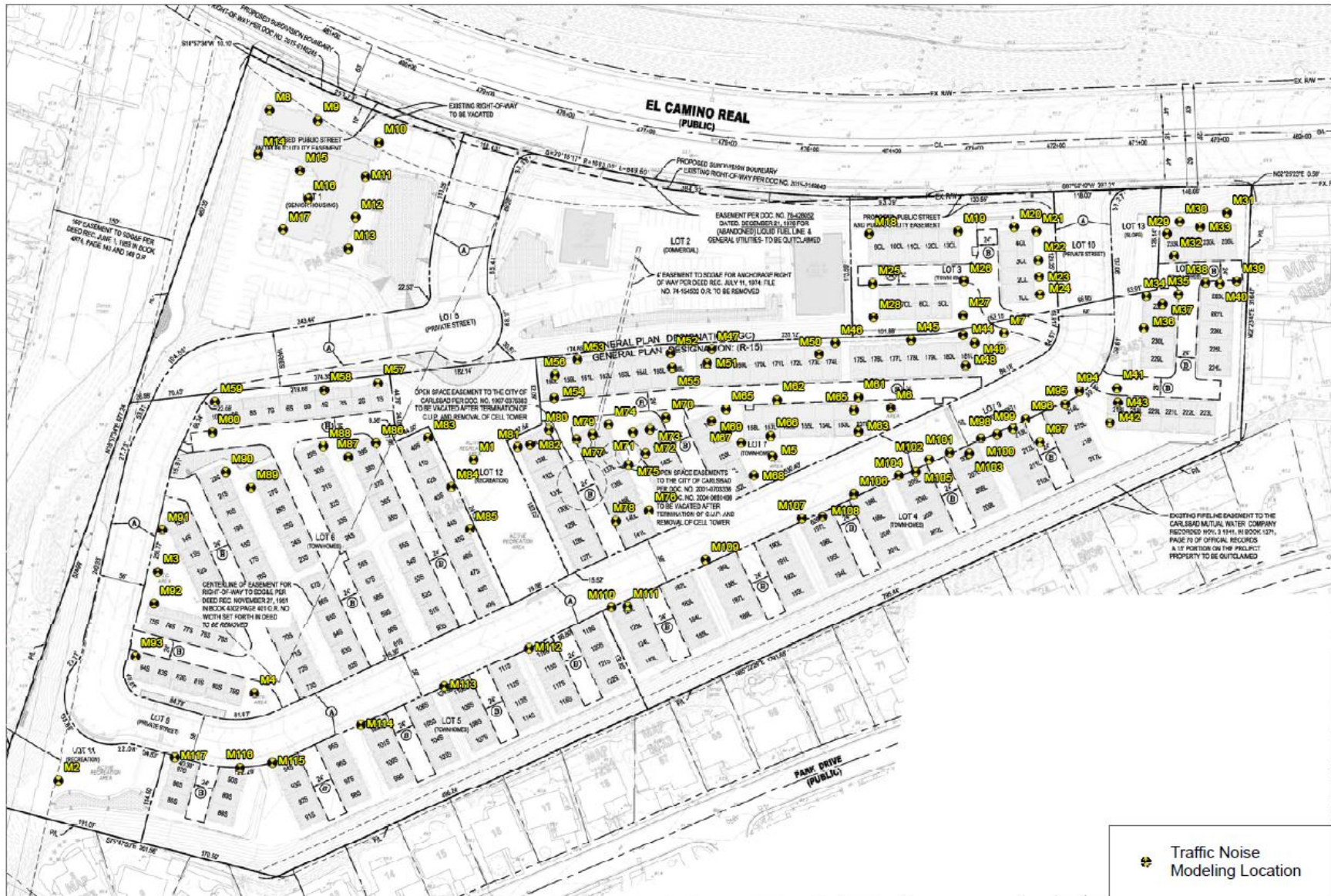
Notes:

Bolded numbers represent interior receiver locations exceeding 60 dBA CNEL; these guest rooms will require subsequent interior noise analysis to verify compliance with the 45 dBA CNEL noise standard for habitable rooms.

Shaded numbers represent residential receiver locations with planned balconies, optional rooftop decks or patios with an exposure to El Camino Real exceeding 65 dBA CNEL in the portions of the project site designated as “commercial zone”, or 60 dBA CNEL in the portions of the project site designated “residential zone”; these locations will require noise barriers to comply with the applicable noise standard (65/60 dBA CNEL) for outdoor areas.

dBA=A-weighted decibel; CNEL=community noise equivalent level; n/a=not applicable (Balconies/patios/rooftop decks not proposed at this location, or 1st floor exposure is a garage, not habitable room)

Figure 5.11-2. On-Site Traffic Noise Modeling Locations



Source: Appendix I of this EIR

Table 5.11-9. On-Site Existing Plus Cumulative Plus Project Traffic Noise Modeling Results – with Noise Barriers

Modeled Receiver #	Applicable Exterior Noise Standard	Traffic Noise Level (dBA CNEL)			
		1st Level	2nd Level	3rd Level	Rooftop Deck
M8 – Age-Restricted Affordable Apartment	65	62	61	59	n/a
M9 – Age-Restricted Affordable Apartment	65	62	61	60	n/a
M10 – Age-Restricted Affordable Apartment	65	62	61	60	n/a
M11 – Age-Restricted Affordable Apartment	65	n/a	n/a	55	n/a
M18 – Small Townhomes	65	61	61	61	n/a
M19 – Small Townhomes	65	60	61	61	n/a
M20 – Small Townhomes	65	62	62	61	n/a
M21 – Small Townhomes	65	62	62	61	n/a
M22 – Small Townhomes	65	58	57	57	n/a
M23 – Small Townhomes	65	n/a	n/a	57	n/a
M29 – Large Townhomes	60	56	55	55	n/a
M30 – Large Townhomes	60	60	59	59	n/a
M31 – Large Townhomes	60	60	59	59	n/a
M33 – Rooftop Deck	60	n/a	n/a	n/a	56
M34 – Large Townhomes	60	56	57	56	n/a
M36 – Large Townhomes	60	54	54	53	n/a
M37 – Rooftop Deck	60	n/a	n/a	n/a	55
M38 – Large Townhomes	60	n/a	n/a	56	n/a
M40 – Rooftop Deck	60	n/a	n/a	n/a	53
M46 – Large Townhomes	60	n/a	n/a	55	n/a
M47 – Large Townhomes	60	n/a	57	57	n/a
M49 – Rooftop Deck	60	n/a	n/a	n/a	55
M50 – Rooftop Deck	60	n/a	n/a	n/a	57
M51 – Rooftop Deck	60	n/a	n/a	n/a	58
M52 – Large Townhomes	60	n/a	56	57	n/a
M53 – Large Townhomes	60	n/a	n/a	56	n/a
M55 – Rooftop Deck	60	n/a	n/a	n/a	57
M56 – Rooftop Deck	60	n/a	n/a	n/a	57
M95 – Rooftop Deck	60	n/a	n/a	n/a	55

Source: Appendix I of this EIR

Notes:

dBA=A-weighted decibel; CNEL=community noise equivalent level; n/a=not applicable (no noise barrier necessary or proposed at this location)

EL CAMINO REAL (PUBLIC)

PROPOSED PUBLIC STREET AND PUBLIC UTILITY EASEMENT

LOT 1 (SENIOR HOUSING)

LOT 2 (COMMERCIAL)

LOT 3 (TOWNHOMES)

LOT 4 (TOWNHOMES)

LOT 5 (TOWNHOMES)

LOT 6 (PRIVATE STREET)

LOT 7 (TOWNHOMES)

LOT 8 (TOWNHOMES)

LOT 9 (PRIVATE STREET)

LOT 10 (PRIVATE STREET)

LOT 11 (RECREATION)

PROPOSED SUBDIVISION BOUNDARY

EASEMENT PER LUCAS NO. 714-2822 DATED DECEMBER 21, 2014 FOR (UNAPPROVED) 10000.7 FEET LINE & GENERAL UTILITIES TO BE OBTAINED

EASEMENT TO SUGAR FOR ANCHORAGE RIGHT OF WAY PER DEED REC. JULY 15, 1974 FILE NO. 74-194552 O.K. TO BE REMOVED

GENERAL PLAN DESIGNATION (GC) 5' 711.12'

GENERAL PLAN DESIGNATION (Q-16)

OPEN SPACE EASEMENT TO THE CITY OF CARLSBAD PER DOC. NO. 187-0073803 TO BE VACATED AFTER TERMINATION OF C.U.P. AND REMOVAL OF CELL TOWER

CONTINGENT EASEMENT FOR RIGHT-OF-WAY TO SUGAR PER DEED REC. NOVEMBER 27, 1961 INSTRUMENT PAGE 401 O.K. 50' WIDTH SET FORTH IN DEED TO BE REMOVED

EXISTING PIPELINE EASEMENT TO THE CARLSBAD MUNICIPAL WATER COMPANY RECORDED NOV. 3, 1941, IN BOOK 1071, PAGE 76 OF OFFICIAL RECORDS A 10' EASEMENT ON THE PRESENT PROPERTY TO BE OBTAINED

PARK DRIVE (PUBLIC)

Noise Barrier Heights Necessary to Achieve Exterior Noise Standards (Estimated Noise Barrier Height)

City of Carlsbad

On-Site Interior Traffic Noise

The city and State require that interior noise levels not exceed a CNEL or L_{dn} of 45 dBA within the habitable rooms of residences. Typically, with the windows open, building shells provide approximately 15 dB of noise reduction. Therefore, rooms exposed to an exterior CNEL greater than 60 dBA could result in an interior CNEL greater than 45 dBA. The State Building Code recognizes this relationship and, therefore, requires interior noise studies when the exterior noise level is projected to exceed 60 dBA CNEL or L_{dn}.

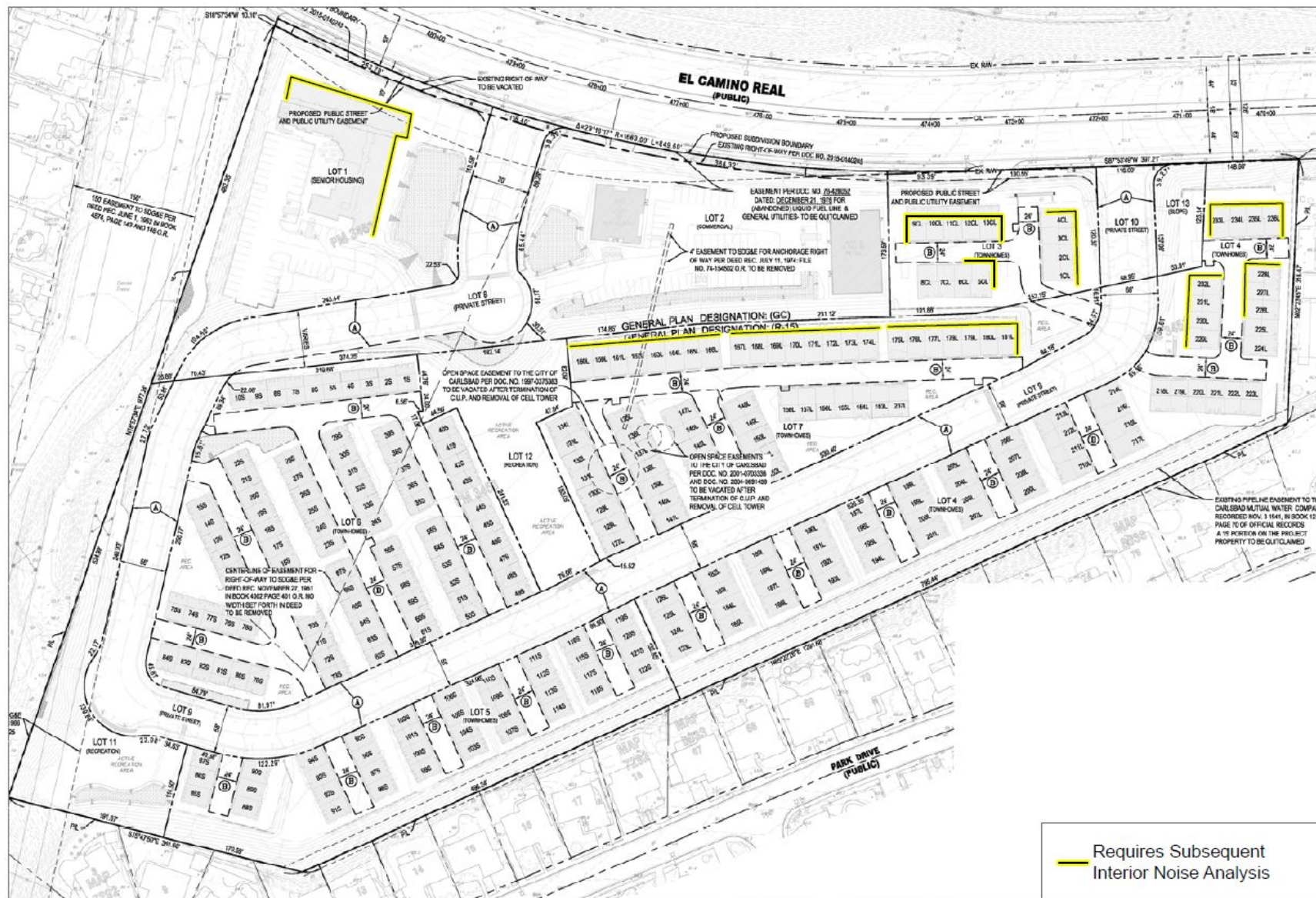
Table 5.11-8 indicates that the future noise levels would range up to 71 dBA CNEL at the north- and northeast-facing sides of the age-restricted affordable apartment units and townhomes with a view of El Camino Real. Thus, the unmitigated interior noise level within the habitable rooms of these locations (as shown on Figure 5.11-4 and denoted by bolded numbers in Table 5.11-8) would exceed the 45 dBA CNEL noise criterion. Conceptual architectural plans have been evaluated and a potential interior noise impact would result from future traffic noise level along El Camino Real. However, Mitigation Measure NOI-2 requires a subsequent interior noise analysis for these units, and the implementation of architectural materials to attenuate noise if recommended by the interior noise analysis. With implementation of Mitigation Measure NOI-2, the potential interior noise impact would be reduced to a level less than significant. Mitigation Measure NOI-2 would require that interior noise levels for these structures meet the State and city interior noise standard of 45 dBA CNEL/L_{dn}.

On-Site Mechanical Noise

Mechanical noise from HVAC equipment would occur as a result of the proposed project. The details regarding the specific locations, quantity or make/model of HVAC equipment would be defined as part of the advancement of the architectural plans and specific layout of the mechanical equipment. Based upon information provided by the project applicant, the residential structures will have HVAC systems located at ground-floor level, and the commercial structures will likely have roof-mounted systems. The noise levels generated by HVAC equipment vary, but typically range from approximately 50 dBA to 65 dBA at a distance of 50 feet (Appendix I of this EIR). For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source.

The HVAC noise levels have the potential to exceed the City of Carlsbad noise standard for stationary source noise at residential uses (55 dBA Leq from 7 a.m. to 10 p.m., 45 dBA Leq from 10 p.m. to 7 a.m.) at the nearest existing noise-sensitive receivers. This potential impact is considered a significant impact. Mitigation Measure NOI-3, requires that a detailed acoustical analysis of the HVAC noise be conducted prior to approval of final occupancy permits, ensuring that noise from HVAC equipment is in compliance with the CMC noise standards. With implementation of Mitigation Measure NOI-3, noise impacts related to on-site mechanical noise would be reduced to a level less than significant.

Figure 5.11-4. Residential Units Requiring Subsequent Interior Noise Analysis



Source: Appendix I of this EIR

On-Site Rooftop Deck Noise

Potential noise impacts at adjacent existing residential land uses from the proposed rooftop decks (shown in Figure 5.11-5) were assessed, using conservative estimates and assumptions regarding the usage of the decks and standard acoustical calculations for noise propagation, insertion loss (the reduction of noise from shielding by building structures, terrain or other noise barriers) and the addition of noise sources.

It was assumed based upon observations of similar residential designs and community behavior that of the 117 proposed rooftop decks, a maximum of 20 percent would be occupied at any one time. This equates to 24 occupied decks. It was also assumed that because the maximum occupancy of the rooftop decks would be 10 persons, a very conservative average of 8 persons would be using each of the occupied decks. Of the 8 persons per deck, it was further assumed that 50 percent (i.e., 4 persons) would be speaking with a raised voice, and that this would be continuous throughout a full one-hour period of time. Generally, a random distribution of the occupied decks would take place, but to be conservative it was assumed that 2-3 of the decks nearest the nearest off-site residences is occupied. The rest would be distributed around the site (the portion of the site with decks).

Amplified music would be limited to a reasonable level - specifically, the volume of amplified music permitted would be limited to below a level that would be readily audible at adjacent units. This would be codified in the Covenants, Conditions and Restrictions (CC&Rs) recorded for the proposed project. It was conservatively assumed that this would be equivalent to 2 persons speaking with a raised voice, continually. Additionally, readily audible noise generated on the rooftop deck would not be permitted after 10 p.m. This would also be codified in the CC&Rs. Thus, the applicable noise standard would be the non-transportation noise source threshold for daytime (7 a.m. to 10 p.m.) noise from the *Carlsbad General Plan* Noise Element (Table 5.11-4). As shown in Table 5.11-4, the daytime noise standard is 55 dBA Leq, which is reduced by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Because the rooftop deck noise would consist primarily of speech or music, the applicable standard for the purposes of this analysis would be 50 dBA Leq.

The results of the rooftop decks activities noise analysis are summarized in Table 5.11-10, and the detailed calculation spreadsheet is contained in the Noise Technical Report (Appendix I of this EIR). As shown in Table 5.11-10, the estimated noise levels from rooftop deck activities would be approximately 43 dBA Leq at the residential property line to the east, and approximately 44 dBA Leq at the residential property line to the south. It should be noted that the direct line-of-sight between the existing residential land uses and the proposed rooftop decks would be interrupted in most cases by the proposed building structures. This is because the elevations of the rooftop decks would be higher than the surrounding existing residences, and in most cases the rooftop decks would be set back from the sides of the proposed buildings facing the east and south. This structural shielding was accounted for in the analysis, and is included in the Noise Technical Report (Appendix I of this EIR).

With the exception of rooftop decks proposed to be located on Units 222L and 223L, the noise impact to adjacent residences associated with potential rooftop activities would be less than significant. However, the proposed rooftop decks that would be located in the southeastern corner of the proposed project on Unit 222L and Unit 223L would not be set back from the edge of the buildings facing south and east. Thus, unless noise mitigation is provided, the noise level at the southeasterly property line would exceed 50 dBA Leq and is considered a significant impact. As shown in Table 5.11-10, with implementation of noise mitigation in the form of 5-foot high noise barriers (as detailed in Mitigation Measure NOI-4), the noise level from rooftop deck activities would be reduced to approximately 46 dBA Leq. Therefore, with implementation of Mitigation Measure NOI-4, noise impacts to adjacent

residential uses associated with Units 222L and 223L related to rooftop deck activities would be reduced to a level less than significant.

With the proposed project as-designed and with implementation of Mitigation Measure NOI-4, the rooftop deck noise would range from approximately 43 to 46 dBA Leq. The noise levels would not exceed the City of Carlsbad noise standard for non-transportation noise consisting largely human speech or music. Furthermore, the estimated noise levels would be well below the measured ambient noise levels shown in Table 5.11-1, which ranged from 52 to 62 dBA Leq; at measurement location ST5, representative of the residences immediately to the east of the project site, the measured noise level was 52 dBA Leq. As shown in Table 5.11-10, when combined with the existing ambient noise levels the noise from the rooftop deck noise would result in an increase of 0 to 1 dB above the existing ambient noise level. In the context of community noise, a change in noise level of 1 dBA or less is considered to be inaudible; a change of 3 dBA or less is considered barely perceptible, while an increase of 5 dBA is considered to be readily perceptible. Thus, with the exception of Unit 222L and 223L, the proposed project's rooftop deck noise is not anticipated to be readily audible, would not result in a significant noise increase above existing levels, nor would the onsite noise exceed the city's 50 dBA noise standard. Implementation of Mitigation Measure NOI-4 would reduce the potential impact associated with rooftop noise at Units 222L and 223L to a level less than significant.

Figure 5.11-5. Rooftop Deck Locations



Source: Appendix I of this EIR



Table 5.11-10. Rooftop Deck Activities Noise Data Summary

Receiver Description	Total Rooftop Deck Noise Level (dBA Leq)	Applicable Daytime Standard ¹ (50 dBA Leq) Exceeded?	Measured Existing Ambient Noise Level (ST5) (dBA Leq)	Combined Rooftop Deck Noise plus Existing Ambient Noise Level (dBA Leq)	Resultant Increase Above Existing Ambient Noise Level (dBA)	Significant Increase?
1. Nearest residential property line (east of project site)	43	No	52	52	0	No
2. Second nearest residential property line (south of project site)	44	No	52	53	1	No
3. Southeast corner residential property line (southeast of project site)	54	Yes	52	n/a	n/a	n/a
4. Southeast corner residential property line (southeast of project site) – with 5' high barriers north, south and east	46	No	52	53	1	No

Source: Appendix I of this EIR

Notes:

¹ City of Carlsbad daytime standard of 55 dBA Leq, adjusted downward by 5 dBA because rooftop deck noise would consist of human speech and/or music.

dBA=A-weighted decibel; Leq=equivalent continuous sound level; n/a=not applicable (the rooftop decks in the southeast corner would be constructed with noise barriers as detailed in Mitigation Measure NOI-4. The resulting mitigated noise level is shown above [Receiver 4 Description]).

Impact 5.11-2 Excessive Groundborne Vibration

Would the proposed project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction activities that might expose persons to excessive groundborne vibration or groundborne noise could cause a significant impact.

Groundborne vibration information related to construction activities has been collected by Caltrans. Information from Caltrans indicates that transient vibrations (such as construction activity) with a peak particle velocity (PPV) of approximately 0.035 inch per second may be characterized as barely perceptible, and vibration levels of 0.24 inch per second PPV may be characterized as distinctly perceptible. Groundborne vibration is typically attenuated over short distances. The heavier pieces of construction equipment, such as bulldozers, would have peak particle velocities of approximately 0.089 inch per second or less at a distance of 25 feet (Appendix I of this EIR). At the distance from the nearest residence to major construction activities (approximately 50 feet) and with the anticipated

construction equipment, the peak particle velocity would be approximately 0.031 inch/second. This vibration level would be just below the level considered barely perceptible, and well below the level considered distinctly perceptible.

The major concern with regards to construction vibration is related to building damage. Construction vibration as a result of the proposed project would not result in structural building damage, which typically occurs at vibration levels of 0.5 inch/second or greater for buildings of reinforced-concrete, steel or timber construction. The heavier pieces of construction equipment used would include typical construction equipment for this type of project, such as excavators, graders, dump trucks, and vendor trucks. Pile driving, blasting, or other special construction techniques will not be used for construction of the proposed project; therefore, excessive ground-borne vibration and ground-borne noise would not be generated. Ground-borne vibration would not be associated with the proposed project following construction activities. Impacts related to ground-borne vibration are considered to be less than significant.

The on-going operation of the proposed project would not include the operation of any known vibration sources. Therefore, a less than significant vibration impact is anticipated from operation of the proposed project.

Impact 5.11-3 Permanent Increase in Ambient Noise Levels

Would the proposed project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed under Impact 5.11-1, long-term operational noise would result from the various project components including off-site traffic noise along adjacent roadways, mechanical noise, and rooftop deck noise. As discussed under Impact 5.11-1, mitigation measures are identified to ensure that operation of the proposed project would not exceed applicable noise standards or otherwise result in a substantial permanent increase in ambient noise levels. With implementation of Mitigation Measures NOI-1 through NOI-4, operational noise impacts would be reduced to a level less than significant.

Impact 5.11-4 Substantial Temporary Increase in Noise

Would the proposed project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed under Impact 5.11-1, the proposed project would result in temporary noise increases during the project construction period. The temporary increases in ambient noise levels would vary depending on the location of the construction activities and the type of equipment being used. The estimated construction noise levels at nearby noise-sensitive land uses are summarized in Table 5.11-6. Temporary noise increases at adjacent existing and future noise-sensitive land uses from construction activities would be considered significant without implementation and/or adherence to the city's standard conditions related to construction noise. The CMC exempts noise associated with construction activity as long as it occurs within the permitted hours. Construction will be limited to the hours between 7:00 a.m. and 6:00 p.m. on weekdays and between 8:00 a.m. and 6:00 p.m. on Saturdays in accordance with the CMC. No construction activity is allowed on Sundays and federal holidays. In addition to compliance with the CMC, the following standard condition measures will be implemented to reduce potential construction noise impacts on nearby sensitive receptors:

- The project contractor shall, to the extent feasible, schedule construction activities to avoid the simultaneous operation of construction equipment so as to minimize noise levels resulting from operating several pieces of high noise level emitting equipment.



- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers. Enforcement shall be accomplished by random field inspections by applicant personnel during construction activities, to the satisfaction of the City of Carlsbad Engineering Services Department.
- Construction noise reduction methods such as shutting off idling equipment, construction of a temporary noise barrier, maximizing the distance between construction equipment staging areas and adjacent residences, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive receptors.
- Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners to contact the job superintendent if necessary. In the event the City of Carlsbad receives a complaint, appropriate corrective actions shall be implemented and a report of the action provided to the reporting party.

Compliance with the construction hours specified in the CMC in combination with other equipment-related standard condition measures identified above would result in less than significant noise impacts during project construction.

Impact 5.11-5 Public Airport Noise

Would the proposed project be located within the limits of a public airport land use planning area that could expose people residing or working in the project area to excessive noise levels?

The nearest airport is McClellan-Palomar Airport, located approximately 1.9 mile north of the project site. Based on the McClellan-Palomar Airport Land Use Compatibility Plan (San Diego County Airport Land Use Commission 2010), the project site is located approximately 1 mile outside of the airport's 60 dB CNEL noise contour. As such, less than significant impacts from airport/aircraft noise would occur.

Impact 5.11-6 Private Airport Noise

Would the proposed project be located within the limits of an airport land use planning area that could expose people residing or working in the project area to excessive noise levels?

The project site is not located within 2 miles of a private airstrip. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels associated with a private airstrip and no impact would result.

5.11.4 Level of Significance before Mitigation

Compliance with the construction hours specified in the CMC in combination with other equipment-related standard condition measures would result in less than significant noise impacts during project construction.

As shown in Table 5.11-8, at the townhome façade locations, exterior noise levels would generally exceed the applicable city noise standards (65 dBA CNEL for the commercial zone or 60 dBA CNEL for the residential zone) for exterior use areas along the first, second and third rows with an unobstructed exposure to El Camino Real. Because exterior noise levels are anticipated to exceed

60 dBA CNEL, interior noise levels are anticipated to exceed the state and city interior noise standard of 45 dBA CNEL. The proposed project could also result in a significant impact associated with on-site mechanical noise (HVAC equipment) and rooftop deck noise.

5.11.5 Environmental Mitigation Measures

- NOI-1** Prior to issuance of building permits for any residential buildings with usable outdoor patio or balcony areas with a direct, unobstructed view of El Camino Real, a noise barrier with heights ranging from 5 to 8 feet as shown on Figure 5: Noise Barrier Heights Necessary to Achieve Exterior Noise Standards (Figure 5.11-3 of this EIR) of the *Noise Technical Report for the Marja Acres Community Plan* (Dudek 2018), shall be incorporated into the building/architectural plans to mitigate noise impacts. The noise barriers may be constructed of a material such as tempered glass, acrylic glass (or similar material), masonry material, or manufactured lumber (or a combination of these), with a surface density of at least 3 pounds per square foot. The noise barriers shall have no openings, gaps, or cracks, and shall be installed prior to issuance of a certificate of occupancy.
- NOI-2** Prior to issuance of building permits for the residential units identified on Figure 6: Units Requiring Subsequent Interior Noise Analysis (Figure 5.11-4 of this EIR) of the *Noise Technical Report for the Marja Acres Community Plan* (Dudek 2018), a site specific noise study will be required to ensure that the outside noise levels are below 60 dBA CNEL and interior noise levels are below 45 dBA CNEL. Any additional measures identified by the acoustical analysis that are necessary to achieve an interior standard of 45 dBA CNEL shall be incorporated into the building/architectural plans. The buildings will require air-conditioning and/or mechanical ventilation and possibly sound-rated windows to mitigate the interior noise impact.
- NOI-3** The project applicant shall retain an acoustical specialist to review project construction-level plans to ensure that the equipment specifications and plans for HVAC and other outdoor mechanical equipment incorporate measures, such as the specification of quieter equipment or provision of acoustical enclosures, that will not exceed relevant noise standards at nearby noise-sensitive land uses (e.g., residential). Prior to issuance of building permits, the acoustical specialist shall certify in writing to the City of Carlsbad that the equipment specifications and plans incorporate measures that will achieve the relevant noise limits.
- NOI-4** Prior to issuance of certificate of occupancy for residential units 222L and 223L, five-foot noise barriers along the northern, southern, and eastern sides of the rooftop decks as shown on Figure 7: Rooftop Deck Locations (Figure 5.11-5 of this EIR) of the *Noise Technical Report for the Marja Acres Community Plan* (Dudek 2018), shall be incorporated into the building/architectural plans to mitigate noise impacts as a result of rooftop activity to adjacent residential uses. The noise barriers may be constructed of a material such as tempered glass, acrylic glass (or similar material), masonry material, or manufactured lumber (or a combination of these), with a surface density of at least 3 pounds per square foot. The noise barriers shall have no openings, gaps, or cracks, and shall be installed prior to issuance of a certificate of occupancy.

5.11.6 Level of Significance after Mitigation

Implementation of Mitigation Measure NOI-1 will reduce the potential noise impact associated with exterior noise to below a level less than significant. As shown in Table 5.11-9, the mitigated noise levels would meet the city's noise standard of 65 dBA CNEL for the commercial zone or 60 dBA CNEL for the residential zone, and the impacts would be reduced to a level less than significant. Implementation of Mitigation Measure NOI-2 will reduce the potential impact associated with interior noise to below a level less than significant. Implementation of Mitigation Measure NOI-3 will reduce the impact associated with mechanical equipment noise to a level less than significant. Implementation of Mitigation Measure NOI-4 will reduce the impact associated with rooftop deck noise to a level less than significant.

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5.12 Population/Housing

This section provides an analysis of the proposed project's impacts related to population and housing.

5.12.1 Existing Conditions

Population

Since incorporation in 1952, Carlsbad has grown steadily and substantially over the decades from a population of 9,253 in 1960 to 105,328 in 2010. The number of Carlsbad residents is expected to reach approximately 118,241 in 2020, an increase of 12 percent over the 2010 population (City of Carlsbad 2015a). According to the state Department of Finance, Carlsbad's population on January 1, 2018, was 114,622 (California Department of Finance 2018).

Housing

According to SANDAG and the U.S. Census, Carlsbad had 44,422 housing units as of 2010. Among these units, 67 percent were single-family, including 52 percent consisting of single-family detached units and 15 percent single-family attached units. Multi-family dwelling units comprised 30 percent of the City's housing stock in 2010 and the remaining 3 percent were mobile homes (City of Carlsbad 2015a).

Between 2000 and 2010, the housing stock in Carlsbad increased 31 percent. Much of that increase was due to the significant increase in multi-family units. Since 2000, the proportion of single-family dwelling units (detached and attached) and mobile homes in the city decreased but the proportion of multi-family units increased, suggesting a trend toward more compact development and opportunities for more affordable housing (City of Carlsbad 2015a).

According to the 2013-2021 Housing Element of the *Carlsbad General Plan*, the current housing stock in the northwest quadrant was 12,308 units (City of Carlsbad 2015a). As of June 30, 2018, there were 12,410 existing dwelling units in the Northwest Quadrant.

5.12.2 Regulatory Setting

State

State Density Bonus Law

The SDBL provides incentives for affordable and other specialized housing production by requiring local agencies to grant an increase to the maximum allowable residential density for eligible projects, and to support the development of eligible projects at greater residential densities by granting incentives, concessions, waivers, or reductions to applicable development regulations. The SDBL provides up to a maximum density bonus of 35 percent for eligible projects. Both rental and for-sale projects may qualify for the bonuses. To be eligible for a SDBL density bonus, projects may incorporate affordable housing units, donate land towards the production of affordable housing, incorporate senior housing or specialized housing for targeted communities, or include a child care facility on site.

Local

San Diego Association of Governments – Regional Plan

On October 9, 2015, the SANDAG Board of Directors adopted San Diego Forward: The Regional Plan. This plan combines the Regional Comprehensive Plan (adopted in 2004) with the 205 RTP/SCS, which was adopted in 2012. The Regional Plan identifies the five following strategies to move the San Diego region toward sustainability:

- Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.
- Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.
- Invest in a transportation network that gives people transportation choices and reduces GHG emissions.
- Address the housing needs of all economic segments of the population.
- Implement the Regional Plan through incentives and collaboration.

Carlsbad General Plan Housing Element

The Housing Element of the *Carlsbad General Plan* is designed to provide the city with a coordinated and comprehensive strategy for promoting the production of safe, decent, and affordable housing within the community. The Housing Element serves as an integrated part of the *Carlsbad General Plan*, but is updated more frequently to ensure its relevancy and accuracy. A priority of both state and local governments, Government Code Section 65580 states:

“The availability of housing is of vital statewide importance, and the early attainment of decent housing and a suitable living environment for every Californian family is a priority of the highest order.”

Per state law, the Housing Element has two main purposes:

1. To provide an assessment of both current and future housing needs and constraints in meeting those needs; and
2. To provide a strategy that establishes housing goals, policies, and programs.

State law now requires housing elements to be updated every 8 years to reflect a community's changing housing needs, unless otherwise extended by state legislation. The 2005-2010 housing element cycle for the San Diego region was extended by state legislation (SB 575) to align local housing elements with regional transportation planning. Therefore, the 2005-2010 Housing Element covered the period spanning July 1, 2005 through April 29, 2013.

The city adopted an update to the *Carlsbad General Plan* Housing Element to address housing needs for the 2013-2021 housing planning period. The 2013-2021 Housing Element covers the period spanning April 30, 2013 through April 29, 2021. The Housing Element identifies strategies and programs that focus on:

1. Conserving and improving existing affordable housing
2. Maximizing housing opportunities throughout the community
3. Assisting in the provision of affordable housing
4. Removing governmental and other constraints to housing investment
5. Promoting fair and equal housing opportunities

Growth Management Plan

The city's GMP establishes citywide, quadrant, and LFMZ performance standards to ensure that adequate public facilities and services are guaranteed at all times as growth occurs. The city's GMP quadrants are the northwest, northeast, southwest, and southeast. The quadrants are further broken down into separate LFMZs.

The GMP requires that the appropriate public facilities must be available in conformance with the adopted performance standards in an area when new development occurs. The LFMP, described below, is one component of the City's three-tiered or phased planning process to ensure compliance with the GMP throughout the development process.

Growth Management Plan/Zone Local Facilities Management Plan

The Growth Management Chapter of the city's Zoning Ordinance is generally intended to provide a balanced community, ensure that development is consistent with the *Carlsbad General Plan*, and prevent growth unless adequate public facilities and improvements are provided in a phased and logical fashion.

Pursuant to the city's GMP and Chapter 21.90 of the CMC, the city is organized into 25 zones. The GMP requires the preparation of LFMPs for the 25 different management zones within the city. The LFMPs implement the provisions of the city's GMP by phasing all development and public facility needs in accordance with the adopted GMP performance standards. The public facilities include city administration, library, wastewater treatment, parks, drainage, circulation, fire, open space, schools, sewer collection, and water distribution. Individual projects must comply with the provisions of the LFMP in which they are located, as well as implement the provisions of the city-wide plan.

The project site is located within LFMP Zone 1 of the city's GMP. The purpose of the LFMP "...is intended to provide an analysis and establish a plan for supplying the public facilities that will be needed in order to accommodate development within the Zone 1 area of the city through buildout of Carlsbad LFMP Zone 1." Section 5.13 (Public Services) and Section 5.15 (Utilities and Service Systems) of this EIR identify the public services and utility infrastructure required for project implementation.

City Council Policy 43

City Council Policy 43 is the established policy for the number and allocation of Proposition E (Growth Management) "excess" dwelling units. Policy 43 establishes the city's policy regarding the number and the criteria for allocation of "excess" dwelling units which have become available as a result of

residential projects being approved and constructed with less dwelling units than would have been allowed by the density control points of the GMP as approved by the voters on November 4, 1986, as Proposition E.

Under city policy, “excess” dwelling units may be allocated to projects located in any quadrant of the city as long as the number of residential units constructed in each quadrant does not violate the dwelling unit limitations established by Proposition E.

The number of excess dwelling units allocated shall be at the sole discretion of the decision-maker designated by the CMC. The City Council, Planning Commission or the City Planner retains the discretion to deny or approve the proposed project without any excess Dwelling Units. In approving a request for an allocation of excess Dwelling Units, the City Council, Planning Commission, or City Planner shall make the following findings:

1. That the project location and density are compatible with existing adjacent residential neighborhoods and/or nearby existing or planned uses;
2. That the project location and density are in accordance with the applicable provisions of the General Plan and any other applicable planning document;
3. That the project complies with the findings stated in the General Plan Land Use Element for projects that exceed the growth management control point for the applicable density range. (This finding applies only to properties outside the Village Review Zone); and
4. That the project complies with the findings stated in the Carlsbad Village Master Plan and Design Manual, Chapter 3, Development Standards, for projects that exceed the maximum densities set forth therein. (This finding applies only to properties inside the Village Review Zone).

Inclusionary Housing Ordinance

The city adopted an Inclusionary Housing Ordinance established by the Housing Element to ensure that all residential development, including residential subdivisions provide a range of housing opportunities for all economic segments of the population.

Residential Density Bonus and Incentives or Concessions (Chapter 21.86)

Consistent with state law (Government Code Sections 65913.4 and 65915), the city offers residential density bonuses as a means of encouraging affordable housing development. In exchange for setting aside a portion of the development as units affordable to lower- and/or moderate-income households or senior citizens, the city will grant a density bonus of up to 35 percent over the otherwise allowed maximum density, and up to three financial incentives or regulatory concessions.

Housing for Senior Citizens (Chapter 21.84 of the Carlsbad Municipal Code)

The housing for senior citizens regulations provides a mechanism and standards for the development of rental or for-sale housing available to senior citizens. The regulations provide comprehensive standards and regulations to ensure housing is designed to meet the special needs of senior citizens (i.e., physical, social and economic needs).

5.12.3 Project Impacts

Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts with regards to population and housing would be considered significant if the project was determined to:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people necessitating the construction of replacement housing elsewhere

Impact Analysis

Impact 5.12-1 Induce Substantial Population Growth

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

The project site is designated by the *Carlsbad General Plan* as General Commercial and R-15 Residential. The project proposes the development of 296 dwelling units consisting of 237 townhomes within the R-15 General Plan designated area, and 46 age-restricted affordable units and 13 townhomes within the commercially designated area.

Each of the city's residential land use designations specifies a density range that includes a minimum density, maximum density, as well as a GMCP density (the GMCP density ensures residential development does not exceed the number of dwellings permitted in the city per the city's Growth Management Plan). As shown in Table 5.12-1, at the upper end of the *Carlsbad General Plan's* allowable density range, a total of 224 dwelling units would be allowed on the project site based on: a) the maximum density for the net developable acreage of the residentially-zoned parcel; and b) the allowable 25 percent of residential for a mixed-use development on the commercially-zoned parcel.

The number of total dwelling units proposed on the project site (296 units) exceeds what is allowed on the project site at the upper end of the *Carlsbad General Plan's* allowable density range (224 units). In order to reach the proposed 296 dwellings units, the project applicant would utilize the opportunities provided by state law and the Residential Density Bonus and Incentives or Concession section of the Zoning Ordinance (Chapter 21.86 of the CMC), which implements California Government Code Sections 65915 – 65918). This allows up to a 35 percent increase in the number of units beyond the maximum base level density calculations. As shown in Table 5.12-1, 80 density bonus units are allowed on the project site with the 35 percent density bonus provisions. The additional 80 density bonus units would increase the total allowable units from 224 to 304. While the project site could be developed with a total of 304 units (with the density bonus provisions), the project applicant is requesting 72 density bonus units (8 fewer units than the total allowed under the density bonus provisions [80]), for a total of 296 residential units.

As shown in Table 5.12-1, at the GMCP of the *Carlsbad General Plan's* allowable density range, a total of 144 dwelling units would be allowed on the R-15 parcel. Although the actual net acreage of the

residentially-zoned parcel would allow 144 dwelling units, the total number of units allocated in the *Carlsbad General Plan* is 135 dwelling units, so 135 units is the baseline. In order to reach the proposed 296 dwellings units, the project applicant is requesting a withdrawal of 161 dwelling units from the city's Excess Dwelling Unit Bank (296 proposed units - 135 units allocated by *Carlsbad General Plan* = 161 units). No residential units are assumed or allocated by the *Carlsbad General Plan* for the commercial portion of the site.

As of June 30, 2018, the Excess Dwelling Unit Bank has 2,346 potential additional dwelling units available to allocate citywide. With regards to the Quadrant Caps, as of June 30, 2018, there are 704 potential additional dwelling units available for the Northwest Quadrant. The proposed project's 296 residential units would not exceed the Northwest Quadrant's remaining future unit limits established by the Growth Management Plan and Proposition E. This is considered a less than significant impact.



Table 5.12-1. Project Site Density Calculations – Total Allowed Units

Parcel	Carlsbad General Plan Designation	Gross Acres	Net Acres	Minimum Density Range/GMCP - du/ac	Minimum Density Range Dwelling Units ¹	Maximum Density Range - du/ac	Upper End Density Range Dwelling Units ¹	35% Density Bonus Units for Maximum Density ²	Total Allowed Units
Parcel 1	GC	6.26	5.73	15.0	21	30.0	43	16	59
Parcel 2	R-15	14.39	12.04	12.0	144	15.0	181	64	245
		20.65			165		224	80	304

Notes

¹ Parcel 1 is a commercial parcel and the density calculations are based on 25% of the net acres.

² Density Bonus Units are rounded up to the next whole number.

³ The project applicant is requesting 72 density bonus units (8 fewer units than the total allowed under the density bonus provisions [80]).

⁴ The project applicant is proposing the development of 296 total units.

du/ac=dwelling units per acre; GMCP=growth management control point

Impact 5.12-2 Displace Substantial Numbers of Existing Housing

Would the proposed project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The proposed project would involve the demolition of all existing structures on the project site, which includes a single-story residence. This would not amount to a displacement of substantial numbers of existing housing. The construction of replacement housing elsewhere would not be required. Therefore, the impact would be less than significant.

Impact 5.12-3 Displace Substantial Numbers of People

Would the proposed project displace substantial numbers of people necessitating the construction of replacement housing elsewhere?

The proposed project would involve the demolition of all existing structures on the project site, which includes a single-story residence. Therefore, the proposed project would displace residents of the existing home that would be demolished. However, this would not amount to a displacement of substantial numbers of people. The construction of replacement housing elsewhere would not be required. Therefore, the impact would be less than significant.

5.12.4 Level of Significance before Mitigation

Implementation of the proposed project would not result in significant population and housing impacts; therefore, no mitigation measures are proposed.

5.12.5 Environmental Mitigation Measures

No mitigation measures are proposed, as no significant impacts have been identified.

5.12.6 Level of Significance after Mitigation

No significant impacts to population/housing have been identified.



5.13 Public Services

This section summarizes the existing conditions, regulatory framework, and potential impacts to public services (city administrative facilities, library, fire, police, parks, and schools) as a result of implementation of the proposed project. Background information was obtained from the following resources:

- *Carlsbad General Plan* (City of Carlsbad 2015a)
- *City of Carlsbad Fiscal Year 2016-2017 Growth Management Plan Monitoring Report* (City of Carlsbad 2017b)

5.13.1 Existing Conditions

The proposed project site is located within Zone 1 of the city's LFMP under the city's Growth Management Program.

Fire Protection

The Carlsbad Fire Department currently maintains six stations throughout the city. Fire operations are the largest division within the Carlsbad Fire Department and are responsible for fire suppression, rescue, emergency medical service delivery, and disaster mitigation. The Fire Department responds to every type of emergency, including traffic collisions, medical emergencies, and severe traumas. The Fire Department delivers advanced life support level care on all fire engines and ambulances, including a licensed paramedic. Currently, more than 75 percent of fire suppression personnel are licensed paramedics; frequently multiple paramedics are available on-scene at emergency incidents.

The locations of the fire stations are dictated by Carlsbad's Growth Management Plan, which calls for additional fire stations whenever there are more than 1,500 dwelling units outside a 5-minute road response time from an existing station. The project site is within the 5-minute road response time of Fire Station 3 (3465 Trail Blazer Way), located immediately northeast of the project site on the north side of El Camino Real.

According to the Public Safety Element of the *Carlsbad General Plan*, the project site is located in a High and Moderate Fire Hazard Severity Zone (City of Carlsbad 2015a).

Police Protection

Police protection for City of Carlsbad residents is provided by the Carlsbad Police Department, which operates from the Safety Center, located on 2560 Orion Way, approximately 2.60 miles from the project site. The City of Carlsbad Police Department employs 170 full-time personnel. Part-time positions are limited and add up to an equivalent of 2.8 full-time employees. Of the 170 authorized full-time positions, 115 are sworn officers and 55 are civilian (City of Carlsbad 2018).

The patrol division provides the fundamental base for the City of Carlsbad Police Department's law enforcement services. Responding to more than 90,000 calls for service annually, the patrol division serves the community and meets crime face-to-face in a wide range of situations 24 hours a day, 365 days a year. Although street patrols are the majority of the division's activity, other special details and services include canine units, bicycle patrol, crisis negotiations, bilingual services, tactical response team (Special Weapons and Tactics [SWAT]) and mental health assistance teams (City of Carlsbad 2018).

Carlsbad has adopted a standard of a maximum 6-minute response time for police service on priority-one emergency calls. Police service is based upon actual workload measures including response times, travel times, type of service, number of calls for service, and the time of day that calls are received.

Schools

The project site is located within the Carlsbad Unified School District (CUSD), consisting of nine elementary schools, three middle schools, one alternative school, and two high schools. Students that reside near the project area attend the following schools: Kelly Elementary School, Valley Middle School, Carlsbad High School, or Sage Creek High School.

Parks

The city's performance standard for park facilities requires that 3 acres of community park or special use area per 1,000 population within the Park District must be scheduled for construction within a 5-year period. The closest park is Laguna Riviera City Park, located less than 0.5 miles southwest of the project site.

Library Facilities

The city currently owns or leases library facilities in three locations: Carlsbad City Library (Dove Lane), Georgina Cole Library (Carlsbad Village Drive), and the Carlsbad City Learning Center (Eureka Place). The city currently has 99,993 square feet of library facilities. The library performance standard requires 800 square feet of library space per 1,000 population to be scheduled for construction within a 5-year period.

City Administrative Facilities

The City of Carlsbad currently owns or leases the following city administrative facilities:

- City Hall
- Neighborhood Services
- Community Development
- Public Safety and Service Center
- Water District Office

The city's adopted performance standard requires that 1,500 square feet of administrative facilities per 1,000 population be scheduled for construction within a 5-year period. The city currently has 214,469 square feet of administrative facilities.

5.13.2 Regulatory Setting

State

California Fire Code and California Building Code

These codes prescribe performance characteristics and materials to be used to achieve acceptable levels of fire protection. Development of structures within the project site will be required to adhere to the CFC and CBC, as adopted and amended by the city.

School Facilities Act (Senate Bill 50, Stats. 1998, c. 407)

In 1998, the state legislature adopted SB 50, the historic school facility financing and reform legislation, which became operative with the passage of Proposition 1A by the state electorate on November 3, 1998. SB 50 provides limitations on development fee exactions for school mitigation purposes. SB 50 substantially revamped the method of providing state monies for school construction by establishing a system by which the state would provide 50 percent of the cost of new school facilities from school bond proceeds with school districts providing the other 50 percent matching share from development fees and other local funding sources such as local school bonds. SB 50 establishes tiers or levels of development fees that can be imposed upon new development. School districts must meet a list of specific criteria, including the completion and annual update of a School Facility Needs Analysis, in order to be legally able to impose additional fees. The CUSD is qualified to impose a fee of \$3.34 per square foot of new residential units constructed (CUSD, School Facilities Needs Analysis, March 7, 2010). The proposed project would be required to adhere to SB 50 through the payment of school fees with the final amount to be determined at the time of building plan approval or through annexation into the community facilities district (CFD).

SB 50 specifically provides that it is the exclusive method for financing school facilities and provides the exclusive method for mitigating environmental effects related to the adequacy of school facilities. Compliance with SB 50 is also to be full and complete mitigation for impacts to school facilities.

Quimby Act

The 1975 Quimby Act (California Government Code Section 66477) authorized cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Under the Quimby Act, fees must be paid and land conveyed directly to the local public agencies that provide park and recreation services communitywide; however, revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities. The act states that the dedication requirement of parkland can be a minimum of 3 acres per thousand residents or more, and equal to the existing parkland provision (up to 5 acres per thousand residents) if the existing ratio is greater than the minimum standard. In 1982, the act was substantially amended. The amendments further: (1) defined acceptable uses of, or restrictions on, Quimby funds; (2) provided acreage/population standards and formulas for determining the exaction; and (3) indicated that the exactions must show a reasonable relationship to a project's impacts as identified through studies required by CEQA.

Local

City of Carlsbad Growth Management Plan

The Citywide Facilities and Improvements Plan (CFIP) is the first phase of implementation of the city's Growth Management Plan (1986, with amendments through 1997). The CFIP seeks to ensure that development does not occur unless adequate public facilities are in place to serve that development. As part of the overall Growth Management Plan, the city was divided into 25 Local Facilities Management Zones (the proposed project is located within Zone 1), each of which has its own Local Facilities Management Plan, consistent with all aspects of the CFIP. Together, these plans ensure that adopted performance standards for each type of facility are met prior to new development.

The CFIP specifies performance standards for 11 facilities, including parks, schools, libraries, fire services, and city administrative services which are evaluated in this section. The performance standards for parks, schools, libraries, fire services, and city administrative facilities are as follows:

- **City Administrative Facilities:** 1,500 square feet per 1,000 population must be scheduled for construction within a 5-year period or prior to construction of 6,520 dwelling units, beginning at the time the need is first identified.
- **Library:** 800 square feet per 1,000 population must be scheduled for construction within a 5-year period or prior to construction of 6,250 dwelling units, beginning at the time the need is first identified.
- **Fire:** No more than 1,500 dwelling units outside of a 5-minute response time.
- **Schools:** School capacity to meet projected enrollment within the zone as determined by the appropriate school district must be provided prior to projected occupancy.
- **Parks:** Three acres of community park or special use area per 1,000 population within the park district (quadrant) must be scheduled for construction within a 5-year period or prior to construction of 1,562 dwelling units within the park district, beginning at the time the need is first identified.

Fire Prevention Code (Carlsbad Municipal Code, Title 17)

CMC Title 17 establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations. This code incorporates by reference the CFC, which is developed and updated every 3 years by the California Building Standards Commission (CBSC). The city's Fire Prevention Code also incorporates a number of local amendments necessary to respond to local climatic, geographical, or topographic conditions.

Zoning Ordinance (Carlsbad Municipal Code, Title 21)

The Zoning Ordinance implements the *Carlsbad General Plan* by regulating the distribution and intensity of land uses, including public facilities. Regulations establish standards for minimum lot size, building height and setback limits, fence heights, parking, and other development parameters within each land use. In the event of an inconsistency between the Zoning Ordinance and the *Carlsbad General Plan*, the *Carlsbad General Plan* shall prevail. Additionally, the Zoning Ordinance contains provisions for parkland dedication or in-lieu fees to meet growth management parkland standards.



The Zoning Ordinance also contains development standards for Planned Developments specifying provision of private common community recreational space. All projects of more than 10 dwelling units must provide 200 square feet of centralized, community recreation space per unit. Projects of 25 or fewer units may provide passive or active recreation facilities; projects of more than 25 units provide both active and passive recreation facilities, with a minimum of 75 percent of the area allocated for active facilities. Projects of more than 50 units provide recreation facilities for a variety of age groups. The Planned Development requirements provide examples of active passive recreational uses, and caveats on counting indoor facilities or restricted areas such as slopes, walkways, storage areas, parking, etc. While these required recreational facilities do not count toward the growth management parkland standards, they do help to ensure that recreational facilities are distributed throughout the city and provided with specific neighborhood needs in mind.

5.13.3 Project Impacts

Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts with regards to public services would be considered significant if the project was determined to:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 following public services:
 - Fire protection
 - Police protection
 - Schools
 - Parks
 - Other public facilities

Impact Analysis

Impact 5.13-1 Fire Protection

Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 fire protection services?

The proposed project would be developed in order to ensure proper emergency access. Also, the proposed project would provide fire hydrants and supporting water infrastructure in accordance with fire marshal requirements. The Carlsbad Fire Department requires a minimum flow of water for fire protection in accordance with the adopted Uniform Fire Code and the Insurance Services Office standards. Water systems within the project site would be designed to meet these standards. The development of the proposed project would be required to comply with all applicable Fire Code and city standards for construction, access, water mains, fire flow, and fire hydrants.

As discussed in detail in Section 5.8, Hazards and Hazardous Materials, the project site is located in a High to Moderate Fire Hazard Severity Zone. In accordance with the City of Carlsbad Landscape Manual and the fire department requirements, a Conceptual Fire Protection Plan will be required for the appropriate areas that interface with open space, and specific Fire Policies and Fire Protection Requirements will be required as site plan and landscaping plan review and approval by the Fire Department. This would include, if applicable, fuel modification zones where the proposed project would interface with open space areas. Adherence to city fire protection requirements would ensure that the potential wildland fire potential is reduced to a level less than significant.

As discussed above, the city's Growth Management Plan requires that no more than 1,500 dwelling units will be outside of a 5-minute response time. The closest fire station, Fire Station 3 (3465 Trail Blazer Way), is located immediately northeast of the project site on the north side of El Camino Real. Additional dwelling units proposed by the project would be within the 5-minute response time as required by the Growth Management Plan. The proposed project would not require the provision of new or physically altered fire facilities and no significant impact to the environment as a result of construction or expansion of fire facilities will result.

Impact 5.13-2 Police Protection

Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 police protection services?

Carlsbad has adopted a standard of a maximum 6-minute response time for police service on priority-one emergency calls. This standard is consistent with International City/County Management Association benchmarks for response time nationwide. Police service is based upon actual workload measures including response times, travel times, type of service, number of calls for service, and the time of day that calls are received.

A Mello-Roos CFD was formed by the city and approved on May 7, 1991 (CFD No.1). In addition to CFD No.1, the city established a number of fee programs to fund their CIP. Development resulting from the implementation of the proposed project would be required to pay into the city's Public Facility Development Fee per the city's Master Fee Schedule. The payment of impact fees will offset impacts to police facilities and services resulting from new development within the project site. The proposed project would not require the provision of new or physically altered existing police services facilities in order to maintain acceptable service ratios, response times, or other performance objectives; therefore, a less than significant impact is identified for this issue area.

Impact 5.13-3 Schools

Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 schools?

For the purposes of long-range planning, CUSD considers all existing facilities at capacity. School enrollment projections and projects proposed by the district's facility planning division will be periodically updated by the school district, allowing future capacity analysis to be performed to verify

that projected enrollment can be accommodated. All development within the project site will be conditioned upon compliance with SB 50. The proposed project would pay all applicable school fees or annex into a CFD as required by CUSD. The proposed project would not require the provision of new or physically altered existing school facilities in order to maintain acceptable service ratios; therefore, no impact is identified for this issue area.

Impact 5.13-4 Parks

Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 parks?

The city's performance standard for parks is 3 acres per 1,000 residents. There are four separate park districts within the city. These park districts correspond to the four quadrants of the city. The project site is within Park District 1 (Northwest Quadrant). According to the CFIP, parks within the identified park district must be scheduled for construction within a five year period, or prior to construction of additional dwelling units within the specified park district at the time the need is first identified.

Prior to issuance of any building permit within Zone 1, a park in-lieu fee must be paid. The fee will be in the amount applicable at the time of issuance of the building permit. The proposed project will be required to pay park in-lieu fees to fund construction of public park improvements. If at any time Zone 1 is found by the City Council to not be in compliance with the parks performance standard, no further residential development will be allowed in Park District 1, including Zone 1, unless actions have been taken by the city to guarantee additional park facilities.

The proposed project would not generate an additional need for the provision of new or physically altered existing park facilities outside of the project area in order to maintain acceptable service ratios or other performance objectives; therefore, no additional environmental impact has been identified.

Impact 5.13-5 Other Public Facilities

Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 other public facilities (City administrative facilities and libraries)?

Library Facilities

There are three library facilities within the city. According to the *City of Carlsbad Fiscal Year 2016-2017 Growth Management Plan Monitoring Report*, based on the June 30, 2017 population estimate of 109,601, the growth management standard requires 87,681 square feet of public library space. The city's current 93,993 square feet of library facilities adequately meets the growth management standard.

The projected buildout need for library facilities is 105,218 square feet (based on current population projections and performance standards). The city completed major maintenance and renovation for both the Cole and Dove facilities that addresses current ADA requirements and allows delivery of modern library services and technology, while extending the life of the Cole Library by 10 to 15 years. Complete replacement of the Cole facility is included in the Capital Improvement Program budget between the years 2020 and buildout. Additionally, civic center and city hall site studies, which are

currently underway, could provide new information to inform the timing and opportunities for a new Cole facility.

The proposed project would not require the provision of new or physically altered existing library facilities in order to maintain acceptable service ratios or other performance objectives; therefore, no impact is identified for this issue area.

City Administration Facilities

The existing citywide population is estimated at 109,601. Based on the city's administrative facilities standard of 1,500 square feet per 1,000 people, the city would be required to have 164,402 square feet of administrative facilities. As mentioned previously, the city currently has 214,469 square feet of administrative facilities. Currently the city exceeds the standard by 50,067 square feet. The city currently exceeds (i.e., the standard is met) the administrative facilities standard for existing and at buildout of the *Carlsbad General Plan*; therefore, the proposed project would satisfy this performance standard and no impact is identified for this issue area.

5.13.4 Level of Significance before Mitigation

As provided in the analysis above, implementation of the proposed project would not result in significant impacts to public services; therefore, no mitigation measures are proposed.

5.13.5 Environmental Mitigation Measures

No mitigation measures are proposed, as no significant impacts have been identified.

5.13.6 Level of Significance after Mitigation

No significant impacts to public services have been identified.

5.14 Transportation/Circulation

This section summarizes the proposed project's impacts to transportation and traffic within the vicinity of the project site as a result of implementation of the proposed project.

Based on City and regional SANTEC/ITE significance criteria, no significant project direct or cumulative project impacts are calculated.

The following technical study analyzes the potential impacts from the proposed project:

- *Transportation Impact Analysis for the Marja Acres Project* (Linscott Law & Greenspan Engineers 2019) (Appendix J of this EIR)

The technical appendices are included on the attached CD found on the back cover of this EIR. Additional background information was also obtained from the *Carlsbad General Plan* (City of Carlsbad 2015a).

The following two performance standards apply to the project traffic analysis:

City of Carlsbad Growth Management Performance Standard: Level of service (LOS) standards apply only to corridors, not intersections, for roadways that are identified as being subject to vehicular LOS in the City's Mobility Element, Table 3-1.

Regional SANTEC/ITE Guidelines (Carlsbad historic thresholds): For intersections that do not operate at a LOS of D or better, threshold of significance is the change in delay at the intersection associated with the addition of project traffic. The threshold is 2 seconds of delay. Intersections operating at a LOS of D or better is acceptable regardless of the additional delay.

For segments that do not operate at a level of service D or better, threshold of significance is the change in volume to capacity ratio (v/c) associated with the addition of project traffic. The threshold is .02 change in v/c. Segments operating at a LOS of D or better is acceptable regardless of the change in v/c.

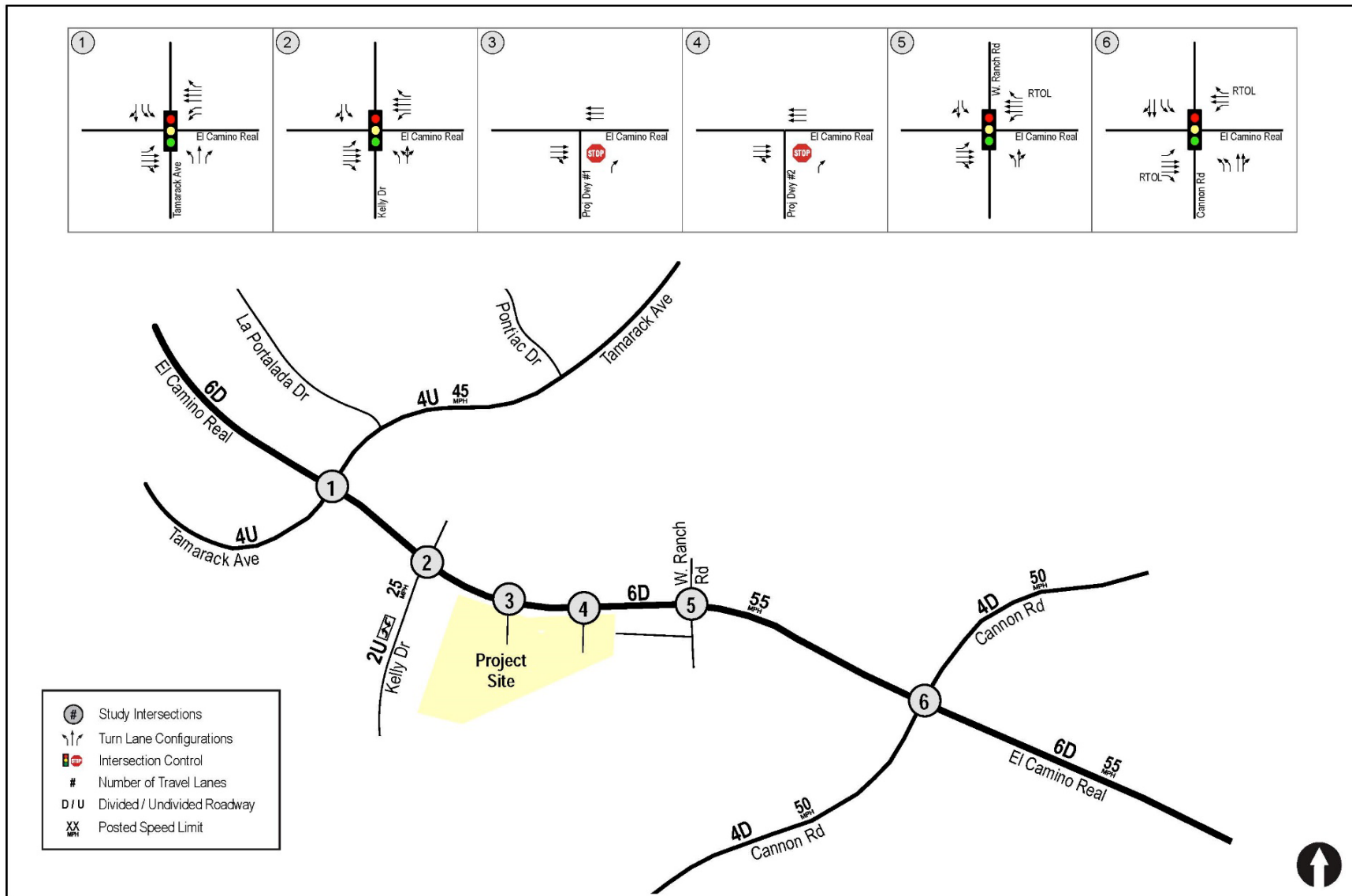
5.14.1 Existing Conditions

The project site is currently developed with 12,370 square feet of commercial uses including small commercial shops, a nursery, and restaurant. A residence is located on the southern parcel of the site. Approximately 700 average daily traffic (ADT) is generated by these existing uses at the project site.

Existing Street Network

Figure 5.14-1 illustrates the existing conditions of the street network in the study area with respect to traffic lanes and intersection controls. The street network that serves the project site, and their corresponding *City of Carlsbad Mobility Element* classifications includes El Camino Real (Arterial Street), Tamarack Avenue (Neighborhood Connector Street), Kelly Drive (School Street), West Ranch Road (unclassified roadway), and Cannon Road (Arterial Street). See EIR Appendix J for a detailed description of these facilities.

Figure 5.14-1. Existing Conditions Diagram



Source: LLG 2019 (Appendix J of this EIR)

Existing Traffic Volumes

Figure 5.14-2 depicts the existing AM and PM traffic volumes along El Camino Real and at study area intersections.

Existing Conditions Analysis

Level of Service

Vehicle LOS is a general measure of existing and future vehicle traffic operating conditions whereby a letter grade, from LOS A (no congestion) to F (high levels of congestion), is assigned. EIR Appendix J provides a detailed description of LOS.

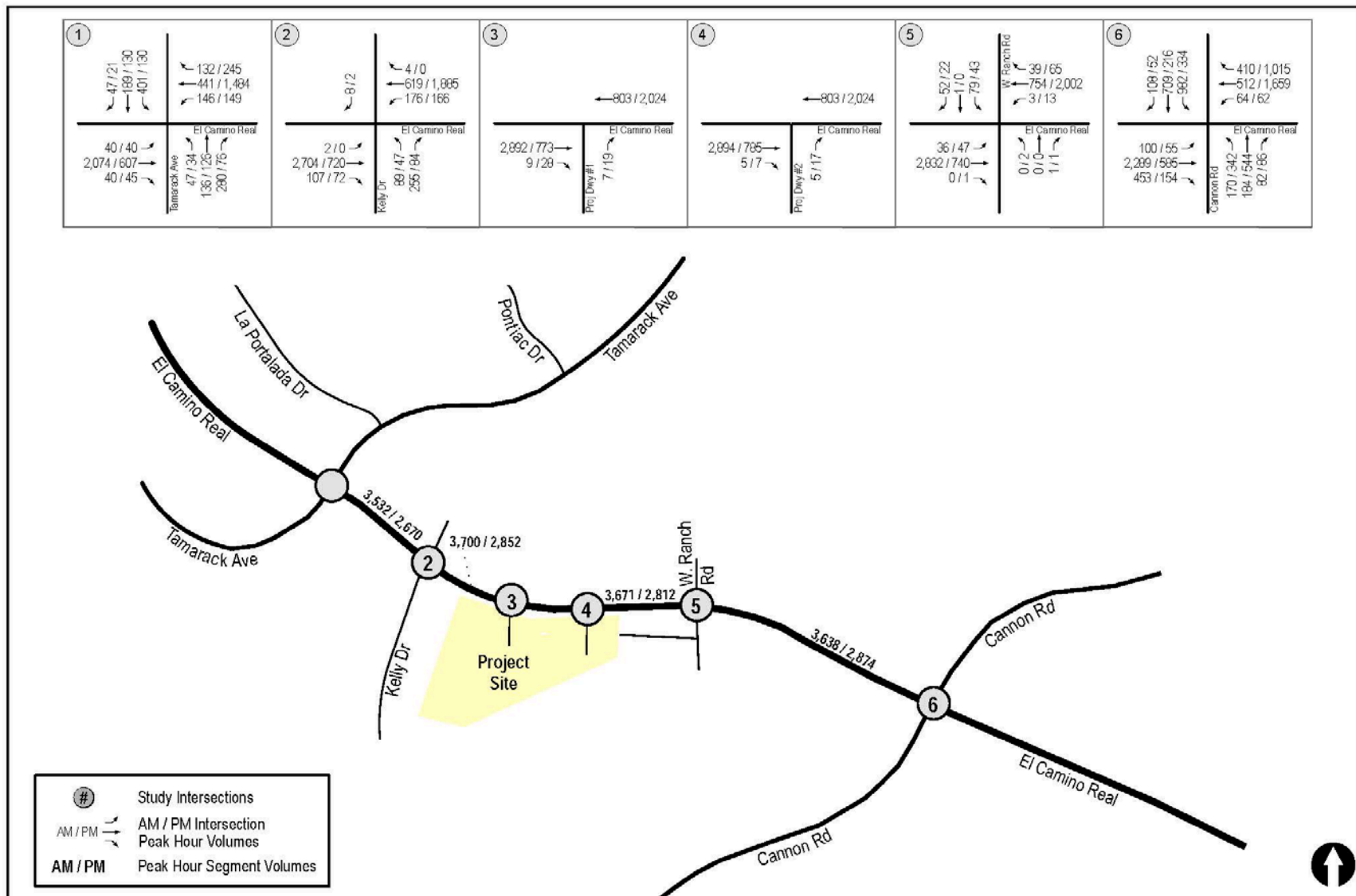
Existing Traffic Conditions

Growth Management Plan Analysis (City Traffic Impact Analysis Guidelines)

Intersections

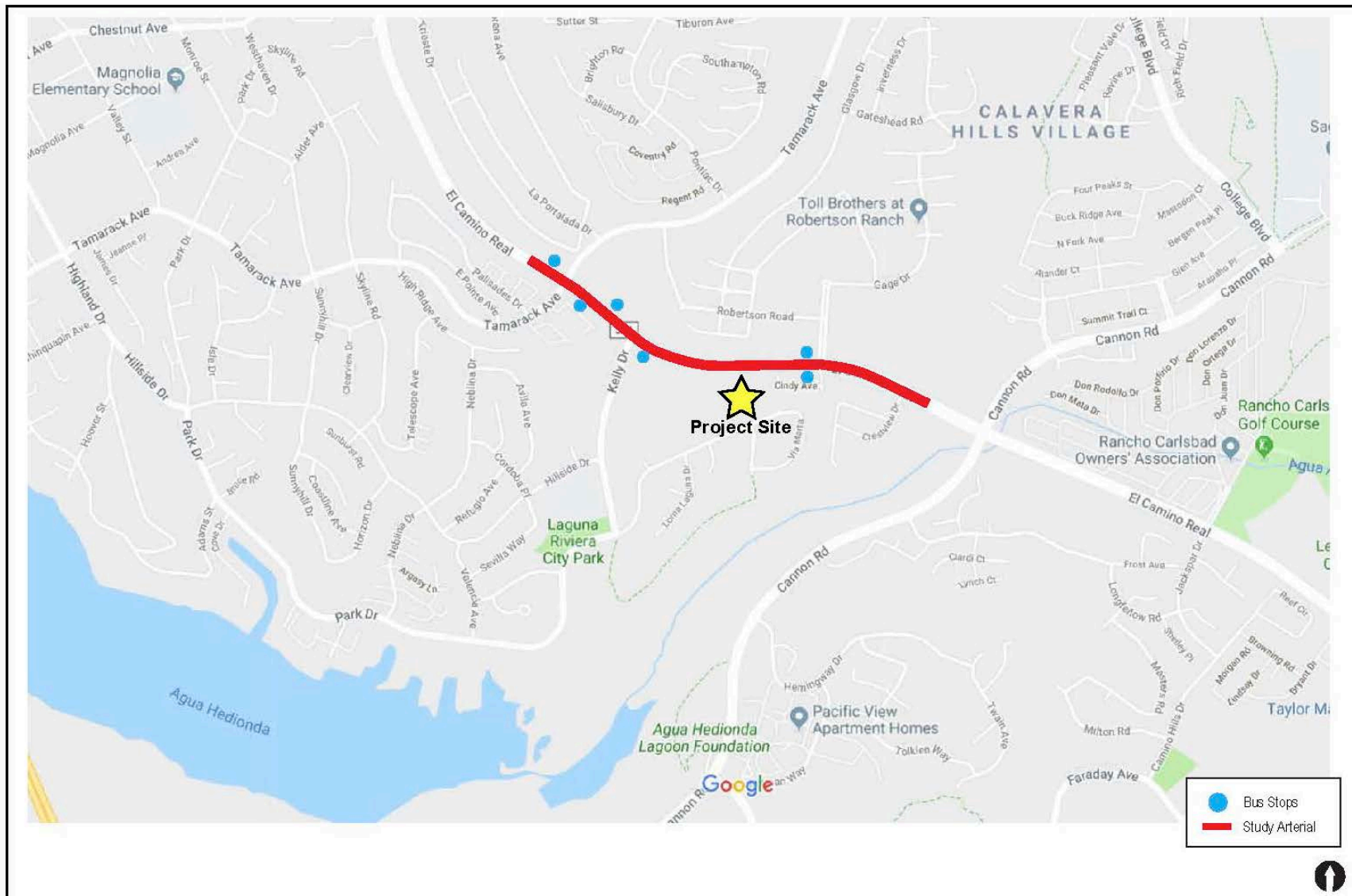
Based on the traffic analysis (Table 6-1 in EIR Appendix J), queues do not exceed the existing pocket lengths. The maximum southbound right-turn volumes at Intersection #6, El Camino Real/Cannon Road are 108 peak hour trips in the AM peak hour. These do not exceed the 150 peak hour trips identified as the threshold for consideration of a dedicated right-turn lane.

Figure 5.14-2. Existing Traffic Volumes



Source: LLG 2019 (Appendix J of this EIR)

Figure 5.14-3. Multi-modal Level of Service Study Area



Source: LLG 2019 (Appendix J of this EIR)

Roadway Segments

Based on the traffic analysis (Table 6-2 in EIR Appendix J), all of the study area street segments operate at an acceptable LOS C.

CEQA Analysis (SANTEC/ITE Guidelines)

Intersections

Based on the traffic analysis (Table 7-1 in EIR Appendix J), El Camino Real and Cannon Road currently experience higher near-term volumes than would be expected due to the absence of the planned and approved College Boulevard extension between El Camino Real and Cannon Road. As indicated in Table 7-1, this intersection currently operates at an acceptable LOS D in the AM peak hour, and an unacceptable LOS E in the PM peak hour. Very high southbound left-turns (AM) and westbound right-turns (PM) occur at the El Camino Real / Cannon Road intersection which include “cut-thru” traffic that should otherwise be using College Boulevard. As such, the level of existing peak hour delay reflects an interim/temporary condition until the segment of College Boulevard, between El Camino Real and Cannon Road is constructed.

Roadway Segments

Based on the traffic analysis (Table 7-2 in EIR Appendix J), all of the study area street segments operate at an acceptable LOS C.

Existing Transit Conditions

The project site is currently served by NCTD bus service along Route 309 and 323. Route 309 provides service from Oceanside to Encinitas via El Camino Real. Route 323 provides service from College Boulevard (the Sprinter Station) to Quarry Creek, and includes additional stops for Carlsbad High School and Sage Creek High School on school days during the regular school year. The nearest stops to the project site for both Route 309 and Route 323 are located on El Camino Real at Kelly Drive and at West Ranch Road/Lisa Street. Figure 5.14-3 depicts the existing transit facilities within the study area. See EIR Appendix J for a detailed description of these facilities and corresponding bus schedules associated with these routes.

Existing Non-Motorized Conditions

Non-motorized transportation facilities include bicycle trails, pedestrian sidewalks, and unpaved trail networks. Sidewalks are included throughout the roadway network within the immediate project area. Bicycle facilities are typically identified as Class I (shared use or bike path; physically separated from any street), Class II (bike lane; portion of roadway designated by striping or signage), or Class III (bike route; any road, street, path specifically designated for bicycle travel regardless of whether such facilities are designated for the exclusive use of bicycles or shared with other transportation modes). The following bike lanes currently exist within the immediate area:

- El Camino Real (Class II)
- Tamarack Avenue (Class II)
- Kelly Drive (Class II)
- Cannon Road (Class II)

5.14.2 Regulatory Setting

State

California Department of Transportation

Caltrans is the primary state agency responsible for transportation issues. One of its duties is the construction and maintenance of the state highway system. Caltrans has established standards for street traffic flow and has developed procedures to determine if intersections require improvements. For projects that may physically affect facilities under its administration, Caltrans requires encroachment permits before any construction work may be undertaken. For projects that would not physically affect facilities, but may influence traffic flow and levels of services at such facilities, these potential impacts to Caltrans facilities would need to be analyzed in accordance with Caltrans protocol, and Caltrans may recommend measures to mitigate the traffic impacts of such projects.

Regional

San Diego Association of Governments – Regional Transportation Plan

SANDAG is the regional transportation planning agency in San Diego County. As such, they are responsible for planning and funding transportation projects throughout the region. SANDAG has completed its 2050 RTP. The RTP was adopted on October 28, 2011. The RTP identifies a potential future project that would provide peak period bus rapid transit on I-5 and along an east-west corridor in the vicinity of Palomar Airport Road.

Local

Carlsbad Transportation Impact Analysis Guidelines

The *Transportation Impact Analysis Guidelines* (City of Carlsbad 2018) provide a detailed description of the methodology to be followed in identifying project impacts for applicable transportation facilities in compliance with applicable federal, state and local requirements (e.g., CEQA, GMP and the 2015 Carlsbad General Plan Mobility Element).

Carlsbad Growth Management Plan

The City's GMP was adopted by Carlsbad voters in the 1980s to limit the amount of residential growth in the City and to ensure that public infrastructure was delivered concurrent with development. The GMP also requires annual monitoring to ensure that growth is being managed consistent with the plan. Currently, traffic is monitored annually and volume-to-capacity calculations are completed to measure and monitor the effects of growth on the transportation system.

City of Carlsbad Municipal Code

The CMC identifies numerous components affecting transportation. This includes parking requirements, truck routes, and changes to use at the McClellan-Palomar Airport.

Carlsbad Bicycle Master Plan

The City adopted a Bicycle MP in 2007, which guides the future development of the City's bicycle facilities and enhancement of the existing bikeway network. The MP identifies existing and planned bicycle facilities and addresses gaps, constrained areas, and improvements at intersections. The MP complies with the requirements of the Bicycle Transportation Account, which is an annual program providing state funds for bicycle facilities improvements.

Carlsbad Pedestrian Master Plan

The City's Pedestrian MP was completed in August 2008. The MP is intended to assist the City in implementing and improving their pedestrian facilities into the future.

5.14.3 Project Impacts

The transportation analyses for the proposed project were conducted in accordance with the *City of Carlsbad Transportation Impact Analysis Guidelines*. The following scenarios are evaluated:

- Existing
- Existing + Project
- Existing + Cumulative (both with, and without the extension of College Boulevard)
- Existing + Cumulative + Project (both with, and without the extension of College Boulevard)

The traffic analysis (see EIR Appendix J) under these scenarios used the two distinct analyses required for both the *Carlsbad Growth Management Plan* as well as CEQA. A MMLOS was also conducted for El Camino Real based on City guidelines, as is a discussion of the requisite requirement for a TDM Plan.

Growth Management Plan Analysis. The *Carlsbad Growth Management Plan* analysis is based on the *City of Carlsbad Traffic Impact Analysis Guidelines*, which requires evaluation of facilities based on their typologies, and it defines analysis methodologies, thresholds of significance, and other necessary considerations. Roadway segment analysis, signalized intersection analysis (queuing at turn lanes), and MMLOS are required to be analyzed for the GMP analysis.

CEQA Analysis. The CEQA analysis is based on the City's historic use of thresholds of significance in the *SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region*, March 2000. Facilities are evaluated based on Table 1 of the *SANTEC/ITE Guidelines*. Roadway segment capacity is evaluated using the City's Roadway Capacity Tables, which is the same analysis required by the GMP. Intersection LOS is evaluated based on the most recent version of the HCM methodology. No multi-modal analysis is required.

Both the GMP and SANTEC/ITE Guidelines (CEQA Analysis) identify specific methodologies for establishing the traffic analysis study area. This methodology includes criteria for intersections, street segments, freeway mainline segments, and freeway ramps. The specific methodology for both analyses are described in detail in Section 2.0 Analysis Approach and Methodology of the traffic report (EIR Appendix J).

Based on the application of the study area methodologies the traffic analysis established a study area that includes the following facilities:

Growth Management Plan Analysis Study Area

Intersections:

- El Camino Real/Tamarack Avenue (signalized)
- El Camino Real/Kelly Drive (signalized)
- El Camino Real/West Ranch Road (signalized)
- El Camino Real/Cannon Road (signalized)

Street Segments (El Camino Real: 6-lane Arterial):

- Tamarack Avenue to Kelly Drive
- Kelly Drive to Project Driveways
- Project Driveways to West Ranch Road
- West Ranch Road to Cannon Road

SANTEC/ITE Guidelines (CEQA) Analysis Study Area

The CEQA study area includes the facilities identified above, as well as the following:

- El Camino Real Real/W. Project Driveway
- El Camino Real/E. Project Driveway

As previously noted, Figure 5.14-1 depicts the project study area.

Multi-modal Level of Service Study Area

El Camino Real is identified in the Mobility Element as an “Arterial Street.” Based on the City’s criteria for MMLOS evaluation, El Camino Real is subject to MMLOS “LOS D Standards” and requires the following analysis:

- Transit/Ridesharing

Based on City standards, El Camino Real is not evaluated for the following MMLOS elements:

- Pedestrian MMLOS Criteria
- Bicycle MMLOS Criteria

As previously noted, Figure 5.14-3 depicts the MMLOS study area.

Thresholds of Significance

As defined in Appendix G of the *CEQA Guidelines*, proposed project impacts to traffic and transportation would be considered significant if the proposed project was determined to:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit
- Conflict with an applicable CMP or alternative permitted program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

Growth Management Plan Analysis (City Traffic Impact Analysis Guidelines)

The GMP CFIP (last amended August 22, 2017) states that the performance standard for the circulation system is as follows:

Implement a comprehensive livable streets network that serves all users of the system – vehicles, pedestrians, bicycles and public transit. Maintain LOS D or better for all modes that are subject to this multi-modal level of service (MMLOS) standard, as identified in Table 3-1 of the Carlsbad General Plan Mobility Element, excluding LOS exempt intersections and streets approved by the City Council.

Thus, the GMP's standard for all non-exempt street system facilities is LOS D. To comply with the GMP, all roadway facilities identified as not meeting the performance standard (LOS D) in the existing conditions scenario must be fully mitigated regardless of project impact to that facility, or the TIA must request an exemption from the LOS D standard according to the Mobility Element Implementing Policy 3-P.9.

The proposed project would cause a significant impact to a transportation facility in the study area if one or more of the following criteria is met:

- The roadway facility is projected to exceed the LOS D standard and a project's traffic meets or exceeds the thresholds of significance listed in Table 2-3 of Appendix J; or
- A ramp meter delay exceeds 15 minutes and a project's traffic meets or exceeds the thresholds of significance listed in Table 2-3 of Appendix J; or
- The addition of project traffic results in a change in LOS from acceptable (LOS D or better) to deficient (LOS E or F) on a roadway segment, freeway segment or ramp; or

- A project results in a change in conditions on a roadway segment, freeway segment or ramp that exceeds the allowable thresholds (Table 2-3 of Appendix J) for locations currently operating at a deficient LOS (baseline conditions).

CEQA Analysis (SANTEC/ITE Guidelines)

A proposed project is considered to have a significant impact if a new proposed project traffic has decreased the operations of surrounding roadways by a defined threshold. The defined thresholds shown in Table 2-4 of Appendix J for freeway segments, roadway segments, intersections, and ramp meter facilities are based on published SANTEC guidelines. If a proposed project exceeds the thresholds in Table 2-4 of Appendix J, then the proposed project may be considered to have a significant project impact. A feasible mitigation measure will need to be identified to return the impact within the thresholds (pre-project + allowable increase) or the impact will be considered significant and unmitigated.

Multi-modal Level of Service

Because of the qualitative nature of the MMLOS methodology, a project impact is significant if an existing pedestrian, bicycle or transit facility is determined to not meet the LOS D standard regardless of the forecasted number of proposed project trips expected to use the facility. An impact occurs and is deemed significant if:

- An existing facility in a study area does not meet the pedestrian, bicycle or transit LOS standard, or
- A project causes a standard facility to become substandard (e.g., removal of an existing bike lane or bus stop, or blocking pedestrian access), or
- A gap is identified in or directly adjacent to the study area related to pedestrian, bicycle or transit service to a site.

Impact Analysis

Project Trip Generation

Table 5.14-1 tabulates the net proposed project traffic generation. The net trip generation is 2,059 ADT with 43 inbound / 135 outbound trips during the AM peak hour and 129 inbound / 44 outbound trips during the PM peak hour.

Table 5.14-1. Proposed project Trip Generation Summary

Land Use	Quantity	Daily Driveway Trips		AM Peak Hour					PM Peak Hour				
		Rate	Volume	Rate	In:Out	Volume			Rate	In:Out	Volume		
					Split	In	Out	Total		Split	In	Out	Total
Townhomes (Condominium) ^a	252 DU	8/DU	2,016	8%	2:8	32	129	161	10%	7:3	141	61	202
Apartment ^b	46 DU	3.7/DU	170	—	—	3	6	9	—	—	7	5	12
Specialty Retail ^c	6,000 sf	40/ksf	240	3%	6:4	4	3	7	9%	5:5	11	11	22
Restaurant (Sit-down, high turnover)	4,000 sf	160/ksf	640	8%	5:5	26	25	51	8%	6:4	31	20	51
<i>Subtotal</i>	—	—	3,070	—	—	65	163	228	—	—	190	97	287
<i>Mixed-Use Reduction (10%)^d</i>	—	—	(307)	—	—	(7)	(16)	(23)	—	—	(19)	(10)	(29)
<i>Existing Traffic to be Removed^e</i>	—	—	(700)	—	—	(15)	(12)	(27)	—	—	(42)	(43)	(85)
Net New Traffic	—	—	2,059	—	—	43	135	178	—	—	129	44	173

Source: LLG 2019 (Appendix J of this EIR)

Notes:

^a Condominium rate applies to “any multi-family 6-20 DU/acre”.

^b Senior adult housing. ITE Trip Generation Manual, 10th Edition.

^c Specialty retail rate applies to proposed bike shop and unspecified retail.

^d SANDAG allows a mixed-use reduction of 10% “where residential and commercial retail are combined.” The proposed project proposes 10,000 SF of total commercial for 298 residential units.

^e Existing traffic is calculated based on actual peak hour driveway counts (November 2017). Existing daily traffic estimated from peak hour counts.

DU=dwelling unit; ksf=thousand square feet; sf=square foot

Trip Distribution/Assignment

The proposed project's trip distribution is depicted on Figure 5.14-4. The proposed project's trip generation was assigned to the street system based on the trip distribution. Figure 5.14-5 depicts the proposed project traffic assignment.

Impact 5.14-1 Conflict with Roadway and Intersection Performance Standards

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

Growth Management Plan Analysis (City Traffic Impact Analysis Guidelines)

Existing plus Project Conditions

Intersections

Table 6-3 of the traffic study (see EIR Appendix J) shows the queue lengths under Existing plus Project conditions at study area intersections, for the applicable left-and-right turning movements. As shown in Table 6-3 (Appendix J), the calculated queues do not exceed the existing pocket lengths with the addition of proposed project traffic. No significant direct project impacts would occur.

The maximum southbound right-turn volumes at Intersection #6 - El Camino Real/ Cannon Road are 110 peak hour trips in the AM peak hour. These do not exceed the 150 peak hour trips identified as the threshold for consideration of a dedicated right-turn lane.

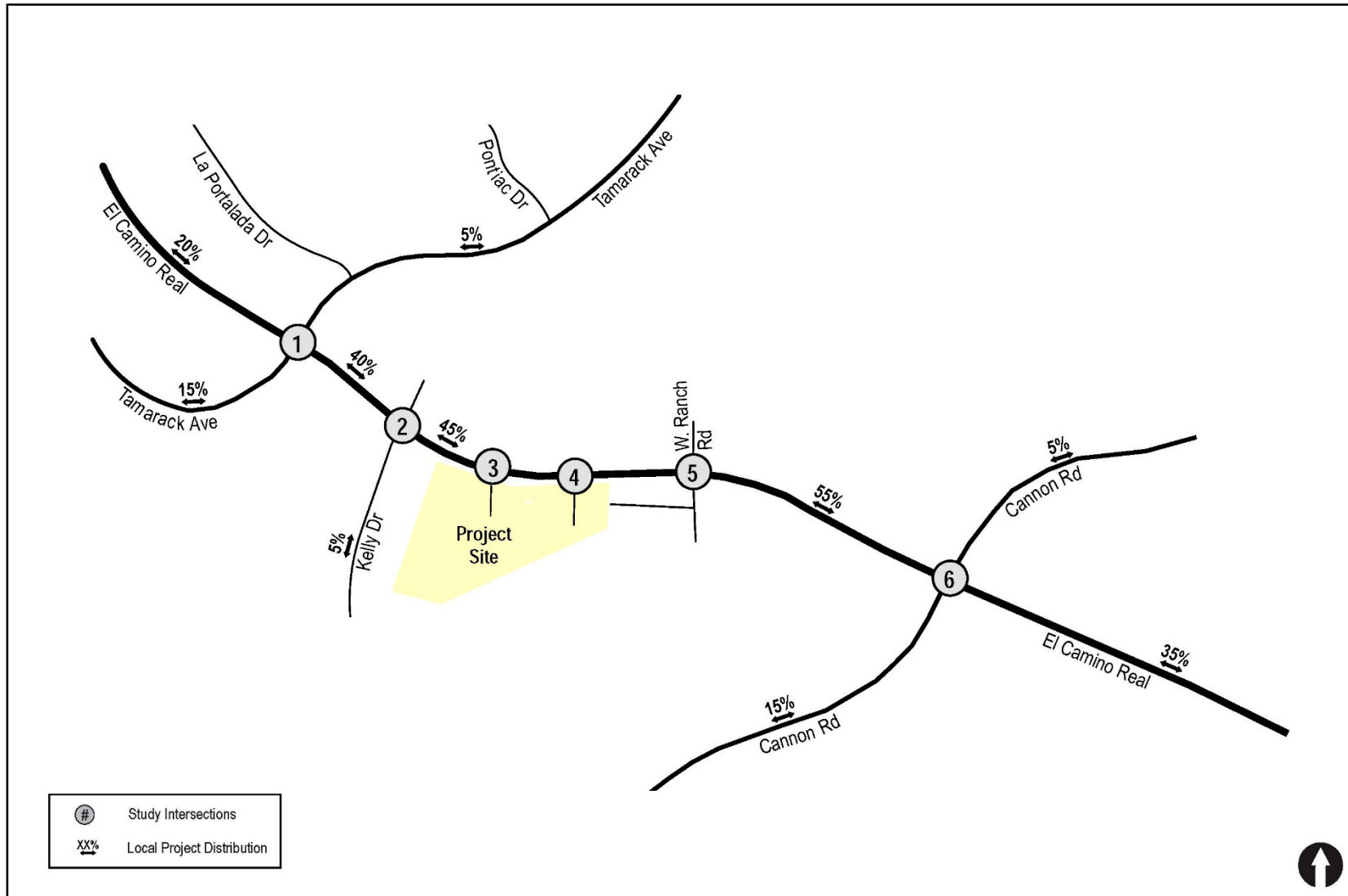
Roadway Segments

Table 6-4 of the traffic study (see EIR Appendix J) shows the street segment operations under Existing plus Project conditions in the study area. As shown in Table 6-4 (Appendix J), all of the study area street segments are calculated to continue to operate at acceptable LOS C with the addition of proposed project traffic. No significant direct project impacts would occur.

Existing plus Cumulative Conditions – Existing Street Network

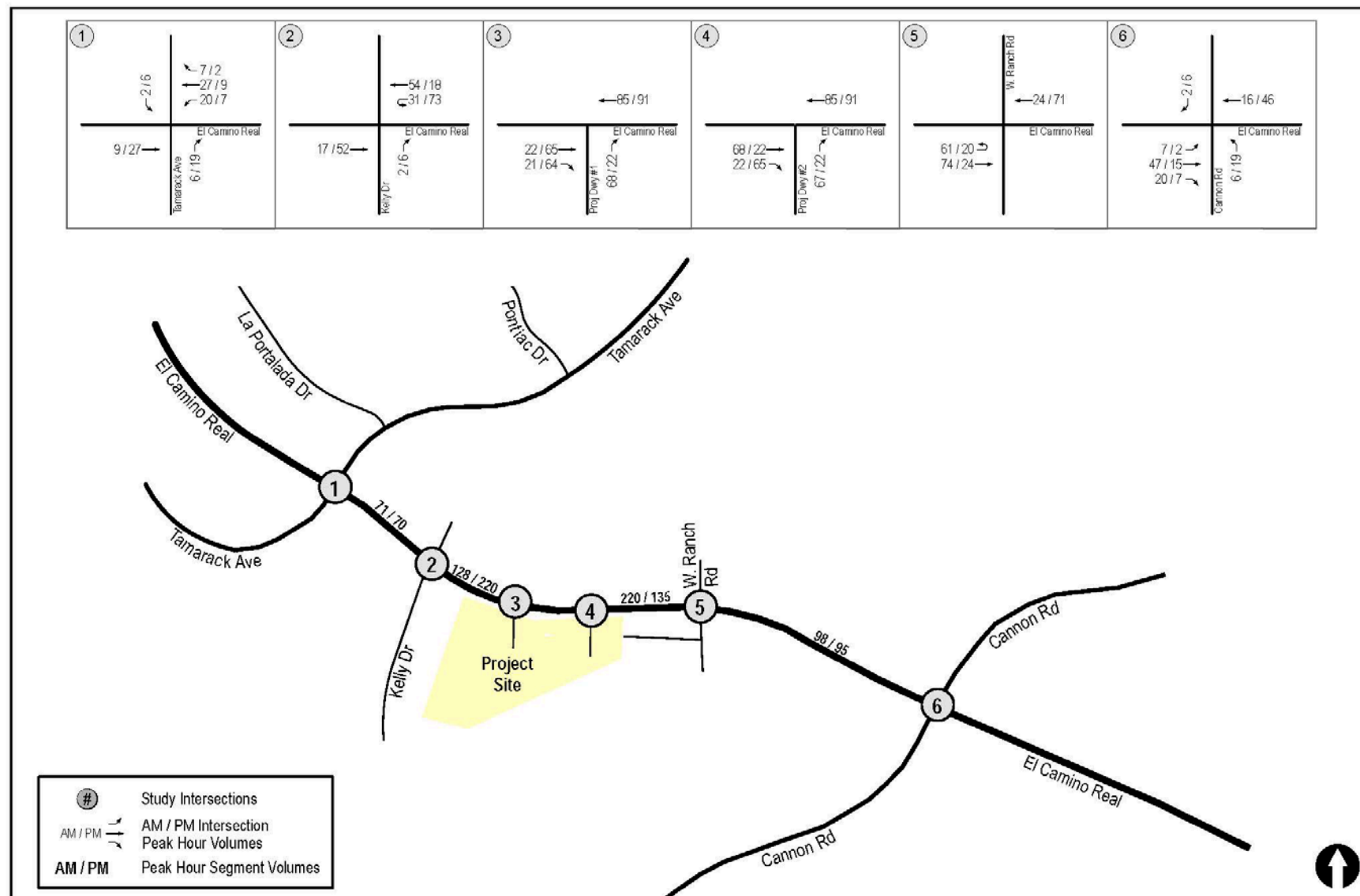
To determine Near-Term (Existing + Cumulative) conditions, approved or pending projects were identified that will add traffic to the study area in the near-term (project opening day) condition (see EIR Appendix J, Table 5-1 for cumulative projects list). For the purposes of the analysis, Near-Term for the proposed project is considered to be 2025, when the six cumulative projects identified for inclusion in Near-Term conditions would be built and occupied. For Existing Street Network conditions, Figure 5-1 (Appendix J) shows the total cumulative projects peak hour traffic volumes. Figure 5-2 (Appendix J) shows the peak hour traffic volumes for the Existing plus Cumulative Projects scenario.

Figure 5.14-4. Proposed project Trip Distribution



Source: LLG 2019 (Appendix J of this EIR)

Figure 5.14-5. Proposed project Traffic Volumes



Source: LLG 2019 (Appendix J of this EIR)

Intersections

Table 6-5 (Appendix J) shows the queue lengths under Existing plus Cumulative Projects conditions at study area intersections, for the applicable left-and-right turning movements to which the proposed project would contribute traffic. As shown, the calculated queues do not exceed the existing pocket lengths with the addition of cumulative proposed project traffic.

Roadway Segments

Table 6-6 (Appendix J) show the street segment operations under Existing plus Cumulative Projects conditions. As shown, street segments continue to operate at acceptable LOS C with the addition of cumulative proposed project traffic.

Existing plus Cumulative plus Project Conditions – Existing Street Network

Intersections

Table 6-7 (Appendix J) shows the queue lengths under Existing plus Cumulative Projects plus Project conditions at study area signalized intersections for the applicable left-and-right turning movements with the addition of proposed project traffic. As shown, the calculated queues are accommodated in the existing pocket lengths. No significant cumulative project impacts would occur.

Roadway Segments

Table 6-8 (Appendix J) shows the street segment operations under Existing plus Cumulative Projects plus Project conditions. As shown, all of the study area street segments are calculated to continue to operate at acceptable LOS C. No significant cumulative project impacts would occur.

Existing plus Cumulative with College Boulevard Extension

An additional four cumulative projects (Cantarini Ranch, Holly Springs, Dos Colinas, and Encinas Creek Apartment Homes) are located on the planned future extension of College Boulevard. To be developed, these projects will require the construction of the College Boulevard extension between Cannon Road and El Camino Real. The College Boulevard extension will serve to relieve the existing traffic volumes between College Boulevard and Cannon Road, thereby improving operations at the El Camino Real/ Cannon Road intersection in the study area. Thus, it is considered a worst-case analysis to evaluate the cumulative conditions scenario using the existing street network without the extension of College Boulevard.

However, as these four cumulative projects are approved and could move forward at any time, a cumulative conditions scenario with the extension of College Boulevard and the associated development projects that would construct it was evaluated. Table 5-2 (Appendix J) lists and describes the projects included in the cumulative analysis with the College Boulevard extension.

Intersections

Table 6-9 (Appendix J) shows the queue lengths under Existing plus Cumulative Projects conditions at study area signalized intersections for the applicable left-and-right turning movements with the construction of the College Boulevard Extension. As shown, the calculated queues are accommodated in the existing pocket lengths.

Roadway Segments

Table 6-10 (Appendix J) shows the street segment operations under Existing plus Cumulative Projects conditions assuming the construction of the College Boulevard Extension is complete. As shown, all of the study area street segments are calculated to continue to operate at acceptable LOS C.

Existing plus Cumulative plus Project Conditions – With College Boulevard Extension

Intersections

Table 6-11 (Appendix J) shows the queue lengths under Existing plus Cumulative Projects plus Project conditions with the College Boulevard Extension at study area signalized intersections for the applicable left-and-right turning movements with the addition of proposed project traffic. As shown, the calculated queues are accommodated in the existing pocket lengths. No significant cumulative project impacts would occur.

Roadway Segments

Table 6-12 (Appendix J) shows the street segment operations under Existing plus Cumulative Projects plus Project conditions with the College Boulevard Extension. As shown, all of the study area street segments are calculated to continue to operate at acceptable LOS C. No significant cumulative project impacts would occur.

CEQA Analysis (SANTEC/ITE Guidelines)

Existing plus Project Conditions

Intersections

Traffic study Table 7-3 (Appendix J) shows the results of the intersection capacity analyses conducted for the study intersections under Existing plus Project conditions during the AM and PM peak hours. All intersections where the proposed project adds more than 2.0 seconds of delay are calculated to operate at acceptable LOS D or better with the proposed project. Therefore, no significant direct project impacts would occur.

Roadway Segments

Traffic study Table 7-4 (Appendix J) summarizes the street segment operations under Existing plus Project conditions. As shown, the study area segments are calculated to continue to operate at acceptable LOS C. Therefore, no significant direct project impacts are calculated; therefore, no significant impact would occur.

Existing plus Cumulative Conditions – Existing Street Network

As described above under the GMP Analysis (City TIA Guidelines), to determine Near-Term (Existing + Cumulative) conditions, approved or pending projects were identified that will add traffic to the project study area in the near-term (project opening day) condition. For the purposes of this analysis, Near-Term for the proposed project is considered to be 2025, when the six cumulative projects identified for inclusion in Near-Term conditions would be considered built and occupied. Traffic study Table 5-2 (Appendix J) identifies and describes each cumulative project.

For Existing Street Network conditions, traffic study Figure 5-1 (Appendix J) shows the total cumulative projects peak hour traffic volumes. Figure 5-2 (Appendix J) shows the peak hour traffic volumes for the Existing plus Cumulative Projects scenario.

Intersections

Table 7-5 (Appendix J) summarizes the Existing plus Cumulative Project intersection operations during the AM and PM peak hours. As shown, with the exception of the El Camino Real/Tamarack Avenue intersection (LOS E), the study area intersection are calculated to continue to operate at LOS D or above with the addition of cumulative project traffic.

Roadway Segments

Table 7-6 (Appendix J) summarizes the street segment operations under Existing plus Cumulative Projects conditions. As shown in Table 7-6, the study area segments are calculated to continue to operate at LOS C with the addition of cumulative project traffic.

Existing plus Cumulative plus Project Conditions – Existing Street Network

Intersections

Traffic study Table 7-7 (Appendix J) summarizes the Existing plus Cumulative Projects plus Project intersection operations during the AM and PM peak hours. All intersections where the proposed project is calculated to add more than 2.0 seconds of delay are calculated to operate at acceptable LOS D or better with the proposed project. Therefore, no significant cumulative project impacts would occur.

Roadway Segments

Traffic study Table 7-8 (Appendix J) summarizes the street segment operations under Existing plus Cumulative Projects conditions with the addition of proposed project traffic volumes. As shown on Table 7-8 (Appendix J) the study area segments are calculated to continue to operate at acceptable LOS C. Therefore, no significant cumulative project impacts would occur.

Existing plus Cumulative Conditions – With College Boulevard Extension

Intersections

Table 7-9 (Appendix J) summarizes the Existing plus Cumulative Project intersection operations during the AM and PM peak hours with the College Boulevard Extension. As shown on Table 7-9 (Appendix J), the El Camino Real/Tamarack Avenue and El Camino Real/Cannon Road intersections would operate at an unacceptable LOS E. The remaining intersections would operation at an acceptable LOS D or better.

Roadway Segments

Traffic study Table 7-10 (Appendix J) summarizes the street segment operations under Existing plus Cumulative Projects conditions with the College Boulevard Extension. As shown in Table 7-10 (Appendix J), the study area segments are calculated to continue to operate at LOS C with the addition of cumulative project traffic.

Existing plus Cumulative plus Project Conditions – With College Boulevard Extension

Intersections

Table 7-11 (Appendix J) summarizes the Existing plus Cumulative Projects plus Project intersection operations during the AM and PM peak hours with the College Boulevard Extension. All intersections where the proposed project is calculated to add more than 2.0 seconds of delay are calculated to operate at acceptable LOS D or better with the proposed project. Therefore, no significant cumulative project impacts would occur.

Roadway Segments

Traffic study Table 7-12 (Appendix J) summarizes the street segment operations under Existing plus Cumulative Projects plus Project conditions with the College Boulevard Extension. As shown in Table 7-12 (Appendix J), the study area segments are calculated to continue to operate at LOS C. Therefore, no significant cumulative project impacts would occur.

Impact 5.14-2 Conflict with an Applicable Congestion Management Program

Would the proposed project conflict with an applicable congestion management program or alternative permitted program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

The proposed project would not conflict with an applicable congestion management program (CMP) established by the county congestion management agency. In 2009, the congestion management agency (SANDAG) employed an “opt out” option defined in AB 2419. As such, the City has been exempted from the requirements of the State CMP. The GMP and participation in the Trans Net Local Street Improvement Program complies with the requirement to address local Near-Term and Long-Term congestion. Therefore, the proposed project would not conflict with an applicable CMP and no impact is identified.

Impact 5.14-3 Change in Air Traffic Patterns

Would the proposed project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. Although the project site is located within the McClellan Palomar ALUCP and associated AIA, the proposed project does not include any aviation components that would modify existing airport operations. The proposed project does not propose structures within the runway protection zone and, therefore, no changes to existing air traffic patterns would result. No impact associated with this issue area is identified.

Impact 5.14-4 Increase Hazards Due to a Design Feature

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

Access to the project site is proposed via two existing right-in/right-out driveways to El Camino Real. All proposed project circulation improvements will be designed and constructed to City standards; and, therefore, would not result in design hazards. Once constructed, the proposed project would not increase hazards due to an incompatible use. No impact would result.

Impact 5.14-5 Emergency Access

Would the proposed project result in inadequate emergency access?

As previously mentioned above, access to the project site is proposed via two existing right-in/right-out driveways to El Camino Real. The driveways would be required to meet standards imposed by the Carlsbad Fire Department. Therefore, the proposed project is not anticipated to result in inadequate emergency access and this is considered a less than significant impact.

Impact 5.14-6 Conflict with Performance Standards for Non-Motorized Transportation

Would the proposed project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The City requires MMLOS evaluation for pedestrian, bicycle and transit/rideshare users of the public roadway system. The City organizes the street network by a system of “typologies”, as defined by the Mobility Element. Depending on the typology, different streets may require different MMLOS evaluations.

El Camino Real is identified in the Mobility Element as an arterial street. As explained above, it is subject to the LOS D standards and transit/ridesharing MMLOS evaluation is required. Arterial streets do not require pedestrian or bicycle MMLOS evaluation.

The following criteria were evaluated for the transit/ridesharing MMLOS evaluation for El Camino Real:

- Access
- Connectivity
- Transit Priority
- Service
- Amenities
- Bicycle Accommodations

The existing transit amenities proximate to the site on El Camino Real were evaluated using the City interactive MMLOS Tool (September 2018). Based on existing transit operations (routes, headways, etc.) in the vicinity of the proposed project, the analysis (see Appendix J Section 6.8) shows a score of 92 points, resulting in LOS A. The City’s TIA Guidelines state that the City strives to maintain LOS D or better on each roadway for each mode of travel that is subject to the MMLOS analysis. Because LOS A is calculated for El Camino Real for the applicable “Transit and Ridesharing” MMLOS criteria, no significant project impact would result.

Further, the project proposes a mix of uses, for which TDM techniques may apply. The applicant is required to comply with the City’s TDM ordinance prior to the issuance of building permits.

5.14.4 Level of Significance before Mitigation

Implementation of the proposed project would not result in significant impacts to transportation/circulation; therefore, no mitigation measures are proposed.

5.14.5 Environmental Mitigation Measures

No mitigation measures are proposed, as no significant impacts have been identified.

5.14.6 Level of Significance after Mitigation

No significant impacts to transportation/circulation have been identified.

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5.15 Utilities and Service Systems

This section summarizes the existing conditions, regulatory framework, and potential impacts on utilities (water supply, waste water, and solid waste) as a result of implementation of the proposed project. The following technical studies analyze the potential impacts from the proposed project:

- *Water System Analysis for the Marja Acres Project* (Dexter Wilson Engineering, Inc. [Dexter Wilson] 2018a) (Appendix K of this EIR)
- *Sewer Service Analysis for the Marja Acres Project* (Dexter Wilson 2018b) (Appendix L of this EIR)

The technical appendices are included on the attached CD found on the back cover of this EIR. Additional background information was also obtained from the *Carlsbad General Plan* (City of Carlsbad 2015a), *Carlsbad Municipal Water District (CMWD) 2012 Water Master Plan* (CMWD 2011) and *2015 Urban Water Management Plan (UWMP)* (CMWD 2016), *2012 Sewer Master Plan* (City of Carlsbad 2012), and *Carlsbad Drainage Master Plan* (City of Carlsbad 2008).

5.15.1 Existing Conditions

Potable Water System

The project site is located within the CMWD service area. CMWD currently obtains 100 percent of its potable water supply from the San Diego County Water Authority (SDCWA). The SDCWA annexed to the Metropolitan Water District of Southern California (MWD) in 1946 as its largest customer. SDCWA purchases water from MWD and other sources for resale to its 24 member agencies. The SDCWA source of water is primarily imported water from the Colorado River and State Water Project. To reduce its dependency on MWD and diversify its supplies, the SDCWA has undertaken the following:

- Imperial Irrigation District water transfer
- All-American and Coachella canal lining conserved water
- Seawater desalination action plan and water transfer and banking program

CMWD covers an area of 20,682 acres, approximately 32.32 square miles, and provides water service to 85 percent of the city. CMWD receives all of its potable water supply from SDCWA through four connections. Water within CMWD is delivered through 474 miles of pipeline and 17 major pressure zones that are supplied by gravity from over 50 major pressure regulating stations. CMWD operates and maintains one active pump station and four standby pump stations within the distribution system that are used for emergency purposes only. Water storage for CMWD is provided by Maerkle Reservoir, with a capacity of approximately 700 acre-feet and 10 additional reservoirs within the distribution system.

CMWD's potable water system serves water to four major sectors: 1) residential (single family and multifamily), 2) commercial/industrial/institutional, 3) agricultural, and 4) landscape. The potable water demands of these sectors in 2015 were 14,029 acre feet per year (AFY). According to CMWD's 2015 UWMP, the demand for potable water is projected to increase to 19,768 AFY by 2040 (CMWD 2016).

The proposed project is located in an area of the city served by the 241 Pressure Zone. As shown on Figure 5.15-1, the nearest existing public potable water line in the vicinity of the project site is a 12-inch 241 Pressure Zone water line in El Camino Real. There are also existing 490 and 446 Pressure Zone public water lines in the vicinity of the project site. Figure 5.15-1 depicts the existing water facilities in the vicinity of the project site.

Recycled Water System

CMWD operates a recycled water system consisting of five pressure zones, three storage tanks, three booster pumping stations, two supply sources with pump stations, and three pressure regulating stations. In 2010, CMWD's recycled water system delivered 3.1 million gallons per day (MGD) (or 3,517 AFY) of recycled water. CMWD's 2015 UWMP indicates the recycled water deliveries are projected to increase to 9.4 MGD (or 10,519 AFY) by 2020 (CMWD 2016).

There are no recycled water lines on the project site; however, there are existing recycled water lines adjacent to the proposed project site. The 384 Zone in CMWD's recycled water system was extended in El Camino Real northward from Cannon Road from previous developments in the project vicinity.

Sewer and Wastewater Facilities

Sewer service in the city is provided by three sewer agencies: The city, Leucadia Wastewater District (LWD), and Vallecitos Water District (VWD). The project site is located entirely within the city sewer service area.

Wastewater treatment in the city is provided primarily at the Encina Wastewater Authority (EWA) Plant and also to a lesser degree at satellite treatment facilities. The southern portion of the city is served by the Gafner Wastewater Reclamation Facility (LWD) and Meadowlark Reclamation Facility (VWD).

As shown on Figure 5.15-2, there are several existing sewer lines in the vicinity of the project site. There is an existing 12-inch sewer interceptor in Kelly Drive that conveys flow south from El Camino Real. From this line in Kelly Drive, an 8-inch sewer line runs southeast in El Camino Real and has been extended approximately 365 feet easterly in El Camino Real on account of the Robertson Ranch Project, which is directly across El Camino Real from the proposed project.

Storm Drain

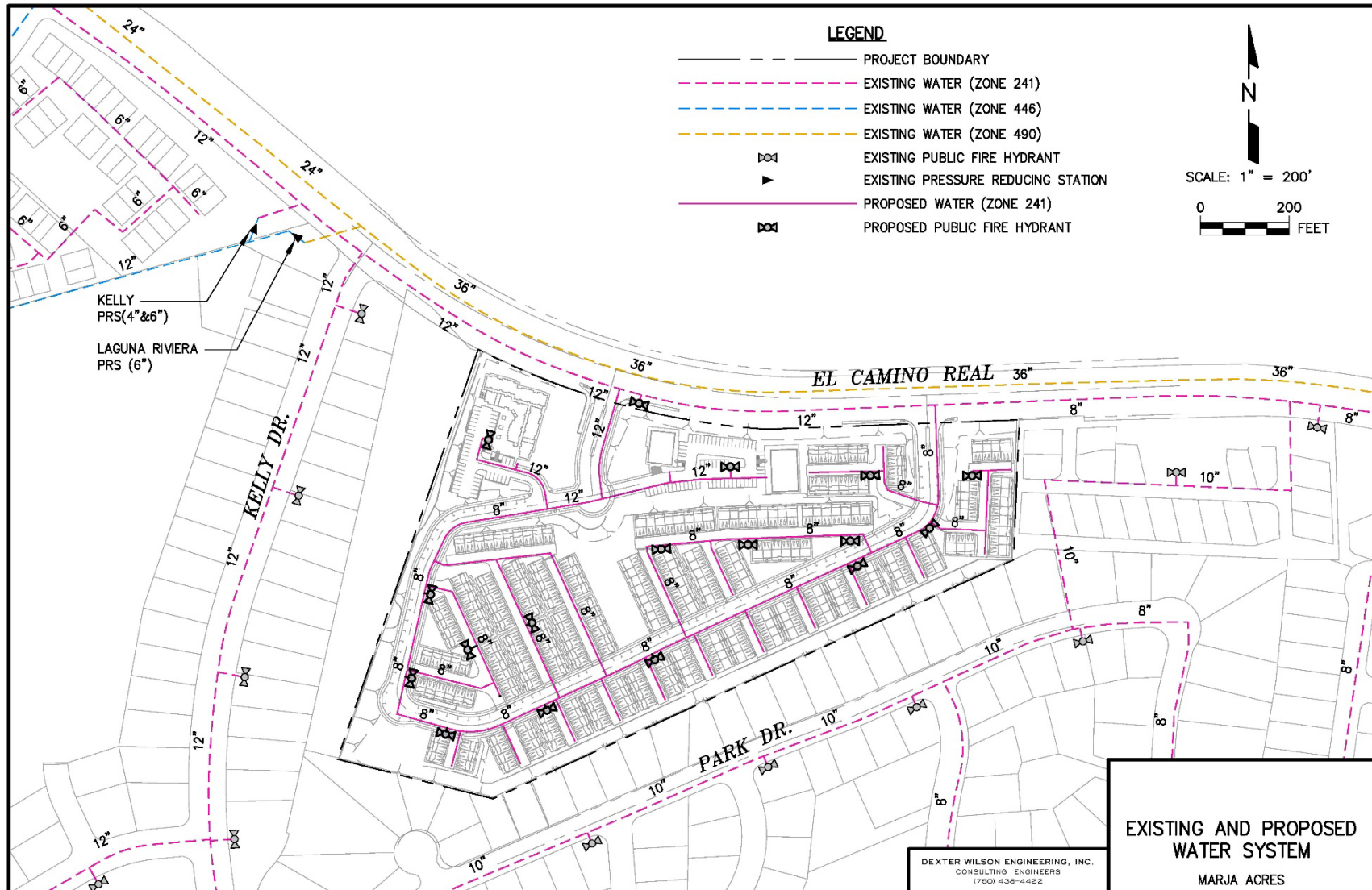
The city is divided into four major watershed basins: the Buena Vista Creek Watershed, the Agua Hedionda Creek Watershed, the Encinas Creek Watershed, and the Batiquitos Lagoon Watershed. The project site is located in the Agua Hedionda Creek Watershed (Basin B). The Agua Hedionda Creek originates south of the San Marcos Mountains and, together with its major tributary, the Buena Creek, drains an area measuring approximately 29 square miles. After merging with the Buena Creek 3 miles downstream of its origin, the Agua Hedionda Creek runs for a few miles before mixing with Calavera Creek. The combined flow empties into the Agua Hedionda Lagoon and subsequently discharges to the Pacific Ocean (City of Carlsbad 2008).

Basin B includes a portion of the downtown area developments along I-5 and the area around Agua Hedionda Lagoon. These developments were constructed prior to 1980, making up 27 percent of the Basin B infrastructure. The Basin B drainage infrastructure is mostly constructed of concrete and corrugated metal, supporting mainly residential, some commercial, and a large number of planned and existing industrial facilities. Thirty percent of Basin B is open space (City of Carlsbad 2008).



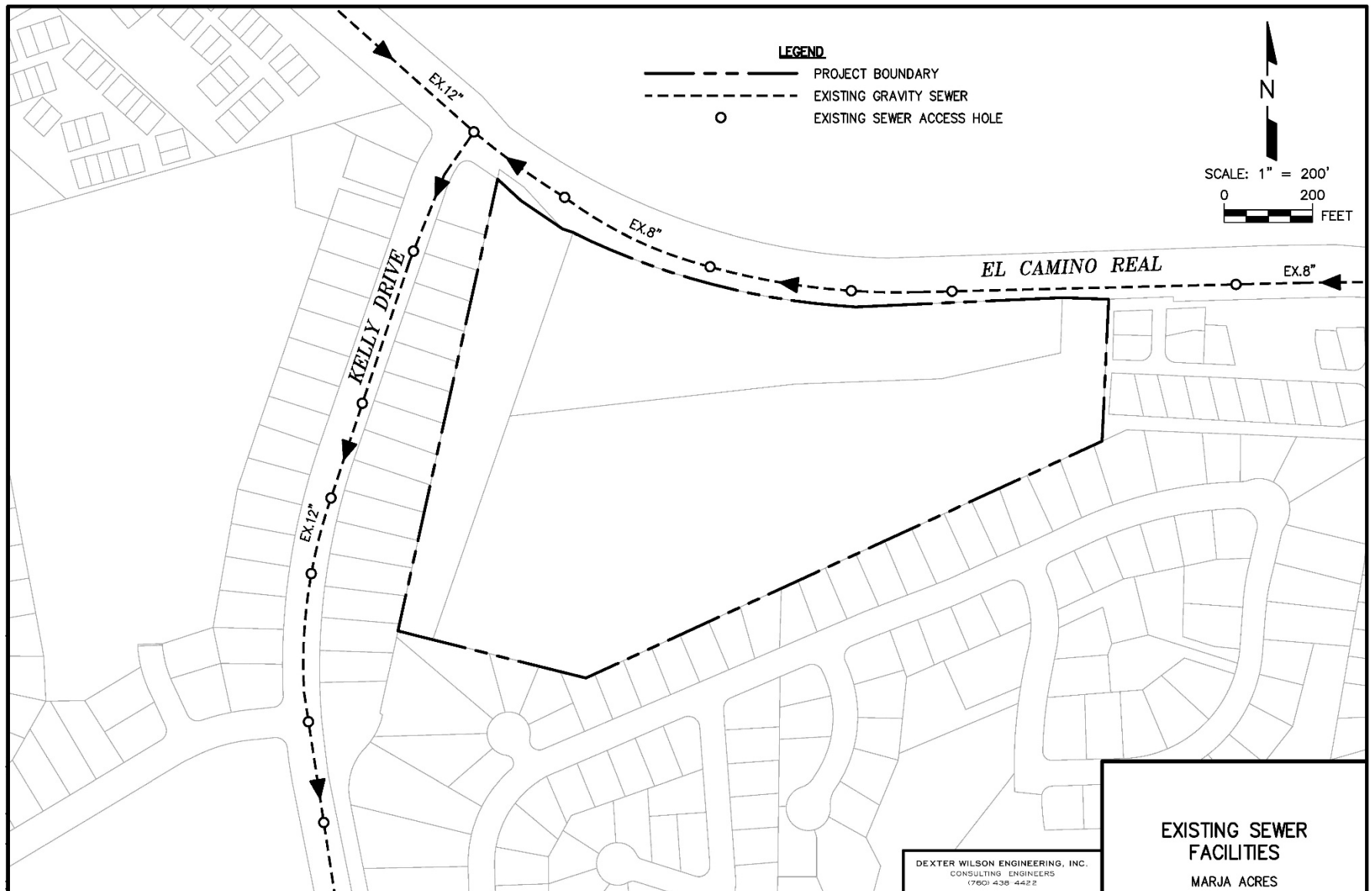
Based on a review of Plate B-2: Master Plan of Drainage Facilities of the *Carlsbad Drainage Master Plan* (City of Carlsbad 2008), existing storm drain facilities are located near the northwest and northeast corner of the project site.

Figure 5.15-1. Existing and Proposed Water System



Source: Dexter Wilson 2018a (Appendix K of this EIR)

Figure 5.15-2. Existing Sewer Facilities



Source: Dexter Wilson 2018b (Appendix L of this EIR)

Solid Waste Disposal

The city provides solid waste collection and disposal services through its contractor, Waste Management, Inc. The services provided consist of residential, commercial, and industrial solid waste and designated recyclables collection service to over 20,000 single family households and more than 2,000 commercial accounts. The city currently diverts approximately 61 percent of the solid waste generated within its jurisdiction from landfills. Solid waste that is not diverted from Carlsbad is hauled to two landfills in San Diego County. The majority of the solid waste is sent to the Otay Landfill (approximately 98 percent), with the balance disposed of at the Sycamore Landfill (approximately 2 percent) (City of Carlsbad 2015b). According to the Solid Waste Facility Permit (37-AA-0010), the Otay Landfill has a maximum permitted daily capacity of 6,700 tons per day (CalRecycle 2017). According to CalRecycle's Solid Waste Information System, the Otay Landfill had a remaining capacity of 21 million cubic yards as of May 2016. Based on the remaining capacity and disposal rates, the Otay Landfill is expected to close in 2030. According to CalRecycle's Solid Waste Information System, the Sycamore Landfill has a maximum permitted daily capacity of 5,000 tons per day and a remaining capacity of 113 million cubic yards as of December 2016. The Sycamore Landfill is anticipated to close in December 2042.

5.15.2 Regulatory Setting

State

California Integrated Waste Management Act of 1989 (Assembly Bill 939)

AB 939 mandates that 50 percent of solid waste be diverted by the year 2000 through source reduction, recycling, and composting. AB 939 also establishes a goal for all California counties to provide at least 15 years of ongoing landfill capacity. This requires each region to prepare a source reduction and recycling element to be submitted to CalRecycle, which administers programs formerly managed by the state's Integrated Waste Management Board and Division of Recycling. The city adopted a source reduction and recycling element, meeting this requirement. The city met the 50 percent requirement 9 out of 12 years, from 1995 to 2006. A proposed amendment to the Integrated Waste Management Act would require CalRecycle to adopt programs to increase statewide diversion to 75 percent by 2020.

California Urban Water Management Planning Act

The Urban Water Management Planning Act was established by AB 797 on September 21, 1983. Passage of this law was recognition by state legislators that water is a limited resource and a declaration that efficient water use and conservation would be actively pursued throughout the state. The law requires California water suppliers providing water for municipal purposes, either directly or indirectly to more than 3,000 people, to prepare and adopt a specific plan every 5 years, which defines their current and future water use, sources of supply and its reliability, and existing conservation measures.

Local

City of Carlsbad Engineering Standards, Volume 2, Potable and Recycled Water Standards

The City of Carlsbad Engineering Standards, Volume 2 - Potable and Recycled Water Standards, 2016 Edition (City of Carlsbad 2016) identifies the design criteria used in sizing water distribution

system piping in the city. These criteria include a minimum desirable static pressure of 60 pounds per square inch (psi) and a maximum desirable static pressure of 150 psi. Under peak hour demand conditions, minimum residential pressure at any location must not be less than 40 psi. Under a maximum day demand with fire flow, a minimum residual pressure of 20 psi must be maintained in the water system.

Local Facilities Management Plan

The purpose of the LFMP is to provide a plan and financing structure to ensure that utilities and service systems are provided to accommodate development within Zone 1. The LFMP is prepared as a requirement of the city's adopted Growth Management Plan, and in accordance with Chapter 21.90 (Growth Management) of the CMC and *Citywide Facilities and Improvements Plan* (City of Carlsbad 1986). The LFMP provides a phasing schedule to determine approximate threshold years for construction or upgrading various public facilities to maintain compliance with the performance standards adopted in the Growth Management Program. The city monitors development within the zone to ensure growth management standards are maintained. The LFMP also contains general and special conditions of approval to ensure compliance with the performance standards. Utilities and service systems addressed in this section and as required by the city's Growth Management Program include wastewater, drainage, fire, schools, sewer, and water. Overall, the utilities and service system demands are presently minimal and all performance standards are currently being met.

5.15.3 Project Impacts

Thresholds of Significance

As defined in Appendix G of the CEQA Guidelines, project impacts with regards to utilities and service systems would be considered significant if the project was determined to:

- Exceed wastewater treatment requirements of the applicable RWQCB
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Have sufficient water supplies available to serve the project from the existing entitlements and resources or are new or expanded entitlements needed
- Result in a determination by the wastewater treatment provider which serves or may serve the study area that has adequate capacity to serve the study area's projected demand in addition to the provider's existing commitments
- Be served by a landfill with sufficient permitted capacity to accommodate the study area's solid waste disposal needs
- Comply with federal, state, and local statutes and regulations related to solid waste

Impact Analysis

Impact 5.15-1 Exceed Wastewater Treatment Requirements

Would the proposed project exceed wastewater treatment requirements of the applicable RWQCB?

The proposed project would not exceed wastewater treatment requirements of the San Diego RWQCB. The proposed project would generate a wastewater effluent of domestic quality with no industrial waste streams proposed. All discharges would be in compliance with Chapter 13 of the CMC and within CMWD's purchased treatment capacity rights of 10.26 MGD for the Encina Water Pollution Control Facility. According to the Carlsbad General Plan Update EIR, the Encina Water Pollution Control Facility meets all current regional, state, and federal requirements for secondary treatment and is expected to continue to meet these requirements. Current regulations require compliance with water quality standards and these measures would preclude development lacking adequate utility capacity, including wastewater treatment capacity (City of Carlsbad 2015b). . Therefore, this is considered a less than significant impact.

Impact 5.15-2 Water and Wastewater Treatment Facilities

Would the proposed project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

Potable Water System

No potable water infrastructure currently exists on the project site. Therefore, implementation of the proposed project would require new pipeline connections to be extended from the project site to existing facilities immediately adjacent to the site. The proposed project would obtain potable water service from the existing 241 Zone system.

As shown on Figure 5.15-1, a majority of the proposed potable water infrastructure would be located within the project site boundaries, and the impacts associated with these improvements are included as part of the overall project grading and development footprint. The proposed on-site water system would establish two connections to the existing off-site 12-inch 241 Zone pipeline located in El Camino Real as shown on Figure 5.15-1. This off-site area has already been graded and paved as roadway. Therefore, no additional environmental impacts are expected to occur with the proposed off-site improvements. This is considered a less than significant impact.

Based on the city's engineering standards, under peak hour demand conditions, minimum residual pressure at any location must not be less than 40 psi. Under a maximum day demand with fire flow, a minimum residual pressure of 20 PSI must be maintained in the water system. . The proposed water system for the project has been determined to be adequate for domestic service and fire protection. The water system analysis (Appendix K of this EIR), indicates that 3,000 gpm fire flow can be provided on-site with a minimum residual pressure of 33 psi, and that 4,000 gpm fire flow can be provided with a minimum residual pressure of 30 psi. . Under peak hour demand, the minimum residual pressure on the project site is 60 psi.

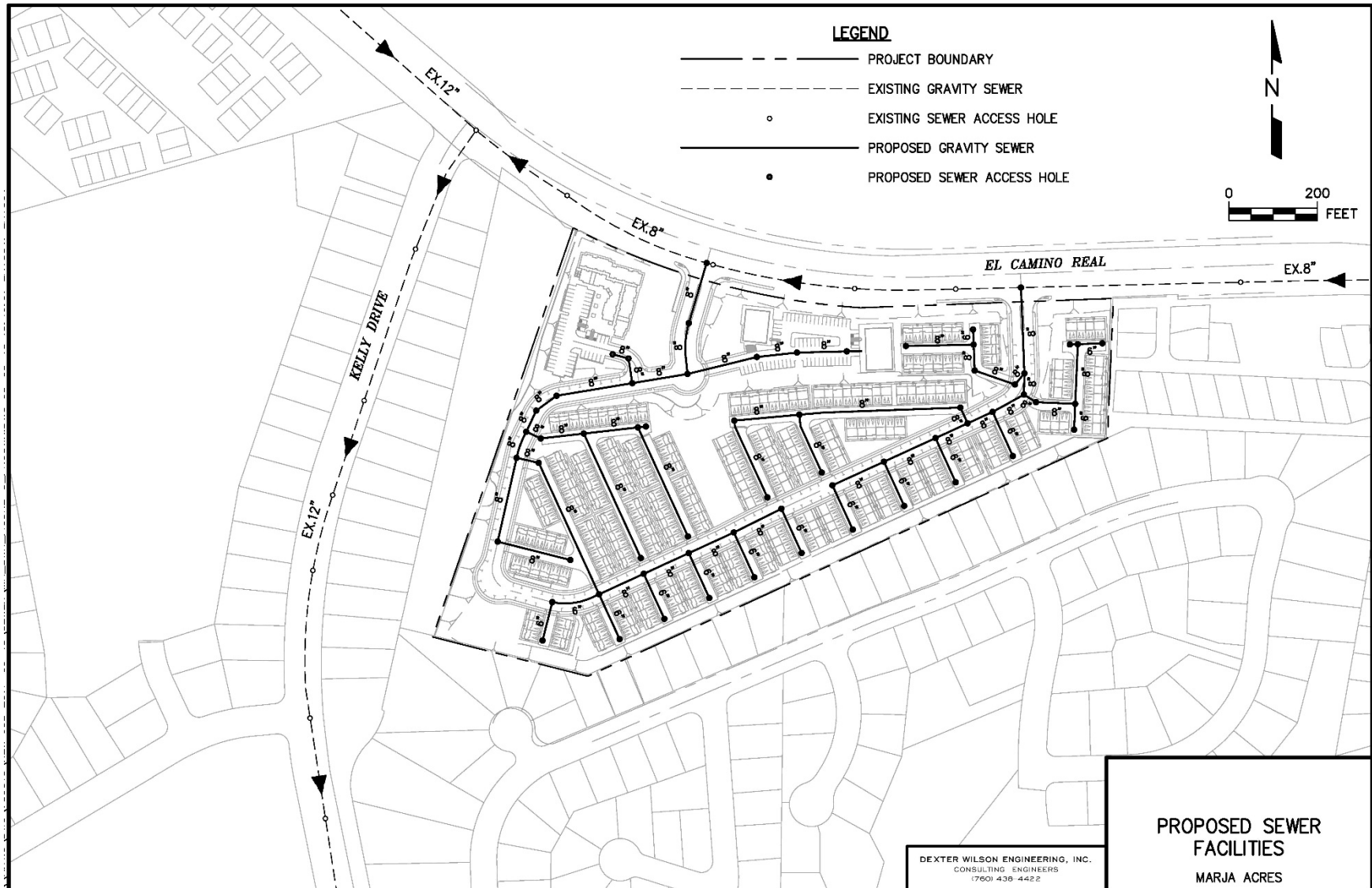
Wastewater Treatment Facilities

Sewer improvements would be made to serve the proposed project. As shown on Figure 5.15-3, the on-site sewer system would connect to the existing off-site 8-inch sewer line located in El Camino Real. No off-site gravity sewer improvements are needed to provide sewer service to the proposed



project. Therefore, the proposed sewer infrastructure would be located entirely within the project site boundaries, and the impacts associated with these improvements are included as part of the overall grading and development footprint. This is considered a less than significant impact.

Figure 5.15-3. Proposed Sewer Facilities



Source: Dexter Wilson 2018b (Appendix L of this EIR)

Impact 5.15-3 Stormwater Drainage Facilities

Would the proposed project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

The proposed project would be responsible for the construction of drainage improvements on site, connecting to the other existing facilities within the project vicinity. Proposed drainage improvements would be located within the project site boundaries, and the impacts associated with these improvements are included as part of the overall project grading and development footprint. This is considered a less than significant impact.

Impact 5.15-4 Sufficient Water Supplies

Would the proposed project have sufficient water supplies available to serve the project from the existing entitlements and resources, or are new or expanded entitlements needed?

SB 610 states that water supply assessments must be furnished to local governments for inclusion in environmental documentation for certain projects subject to CEQA (the criteria established in Water Code Section 10912 include “a proposed residential development of more than 500 dwelling units” and “a proposed shopping center...having more than 500,000 square feet of floor space”). Also, according to Water Code Section 10912, a Water Supply Assessment would be required for “a mixed-use project that includes one or more of the projects specified in this subdivision.” The proposed project is not subject to the requirements of SB 610 because the proposed project does not meet the development thresholds as established in Water Code Section 10912.

The expected water demand for the proposed project was estimated using water demand criteria from the city’s Engineering Standards. Table 5.15-1 presents the estimated on-site water demand for the proposed project. As shown in Table 5.15-1, the estimated water demand for the proposed project is 152,331 gallons per day (GPD). According to the *Water System Analysis* prepared for the project, maximum day demand for the proposed project is 251,346 GPD or 175 gallons per minute (GPM). The peak hour demand is 441,760 GPD or 307 GPM (Dexter Wilson 2018a).

Table 5.15-1. Projected Water Demand for Proposed Project

Land Use	Quantity	Demand Factor	Average Demand (GPD)
Residential (townhomes)	252 DU	550 GPD/DU	138,600
Residential (apartments)	46 DU	250 GPD/DU	11,500
Commercial	9,700 sq ft	2,300 GPD/10,000 sq ft	2,231
TOTAL			152,331

Source: Dexter Wilson 2018a (Appendix K of this EIR)

Notes:

DU=dwelling unit; GPD=gallons per day

The proposed project would obtain potable water service from the existing 241 Zone system. This would be accomplished by establishing two connections to the existing 12-inch 241 Zone pipeline located in El Camino Real. As shown on Figure 5.15-1, this would provide a looped system through the project site.

As previously identified, the project site is located within the CMWD service area. According to the 2015 CMWD UWMP, the CMWD expects to have adequate water supply available to meet the projected demand within its jurisdictions to 2040, due to future projects and/or meeting SB X7-7 water conservation goals. These improvements may include the need to utilize local groundwater, surface water supplies, and desalinated seawater. Beginning in late 2015, desalinated seawater water made available via the Carlsbad Desalination Plant has been blended into the treated water purchased from SDCWA. This new water source, paired with already planned improvements to facilities and conservation measures at the federal, state, and local level, would yield an adequate supply of water for current growth projections. Based on these considerations, the proposed project would have sufficient water supplies available to serve the project from existing entitlements and resources. This is considered a less than significant impact.

Impact 5.15-5 Adequate Wastewater Treatment Capacity

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

The estimated average sewer generation for the proposed project was estimated using sewer generation rates from the city's Engineering Standards and 2012 Sewer Master Plan (City of Carlsbad 2012). As shown in Table 5.15-2, the estimated average sewer generation for the proposed project is 64,312 GPD. As shown in Table 5.15-3, the estimated peak sewer generation for the proposed project is 162,950 GPD.

Table 5.15-2. Average Sewer Flow from Proposed Project

Land Use	Quantity	Sewer Generation	Total Average Flow (GPD)
Residential (townhomes)	252 DU	220 GPD/DU	55,440
Residential (apartments)	46 DU	176 GPD/DU	8,096
Commercial	9,700 sq ft	800 GPD/10,000 sq ft	776
TOTAL			64,312

Source: Dexter Wilson 2018b (Appendix L of this EIR)

Notes:

DU=dwelling unit; GPD=gallons per day

Table 5.15-3. Peak Sewer Flow from Proposed Project

Land Use	Average Flow (GPD)	Peaking Factor	Peak Flow (GPD)
Residential (townhomes)	55,580	2.5	138,950
Residential (apartments)	8,800	2.5	22,000
Commercial	800	2.5	2,000
TOTAL			162,950

Source: Dexter Wilson 2018b (Appendix L of this EIR)

Notes:

DU=dwelling unit; GPD=gallons per day

Sewer System Analysis

Offsite Analysis

An offsite sewer system analysis was conducted to analyze the impact of the proposed project on the existing gravity sewer system. The existing system was analyzed under existing flow conditions and under existing flows plus flow from the proposed project.

Figure 5.15-4 presents the sewer access hole (SAH) and pipe diagram and the public sewer system within the project's sub-basin. The sewer analysis begins at SAH 16 in El Camino Real. The project's wastewater would enter the gravity sewer line in El Camino Real at SAH 8, SAH 12, and SAH 4. The sewer is then conveyed to the 12-inch diameter interceptor in Kelly Drive approximately 150 feet northwest of the project site. The sewer analysis ends at SAH 2. This interceptor in Kelly Drive joins the North Agua Hedionda Interceptor before flowing west and being pumped in both the Fox's Landing lift station and Agua Hedionda lift station before eventually being conveyed southward to the Encina Treatment Plant.

The results of the sewer flow analysis indicate that the sewer lines between the project site and the interceptor in Kelly Drive have a maximum depth-to-diameter (d/D) ratio of 0.49 under existing peak flows and 0.60 under existing peak flows with the proposed project included. These flows are in 8-inch diameter gravity sewer lines in El Camino Real where depth ratios of up to 0.50 are acceptable per the city's Engineering Standards and Master Plan.

The critical section of this line is the last section prior to the connection to the 12-inch interceptor in Kelly Drive. This section of line is approximately 280 feet in length and was installed at a slope of 0.40 percent with a drop manhole at the upstream end to allow the sewer line to be installed below a gas line and box culvert. The maximum d/D ratio in this section of line, with the proposed project included, during peak flows is 0.60.

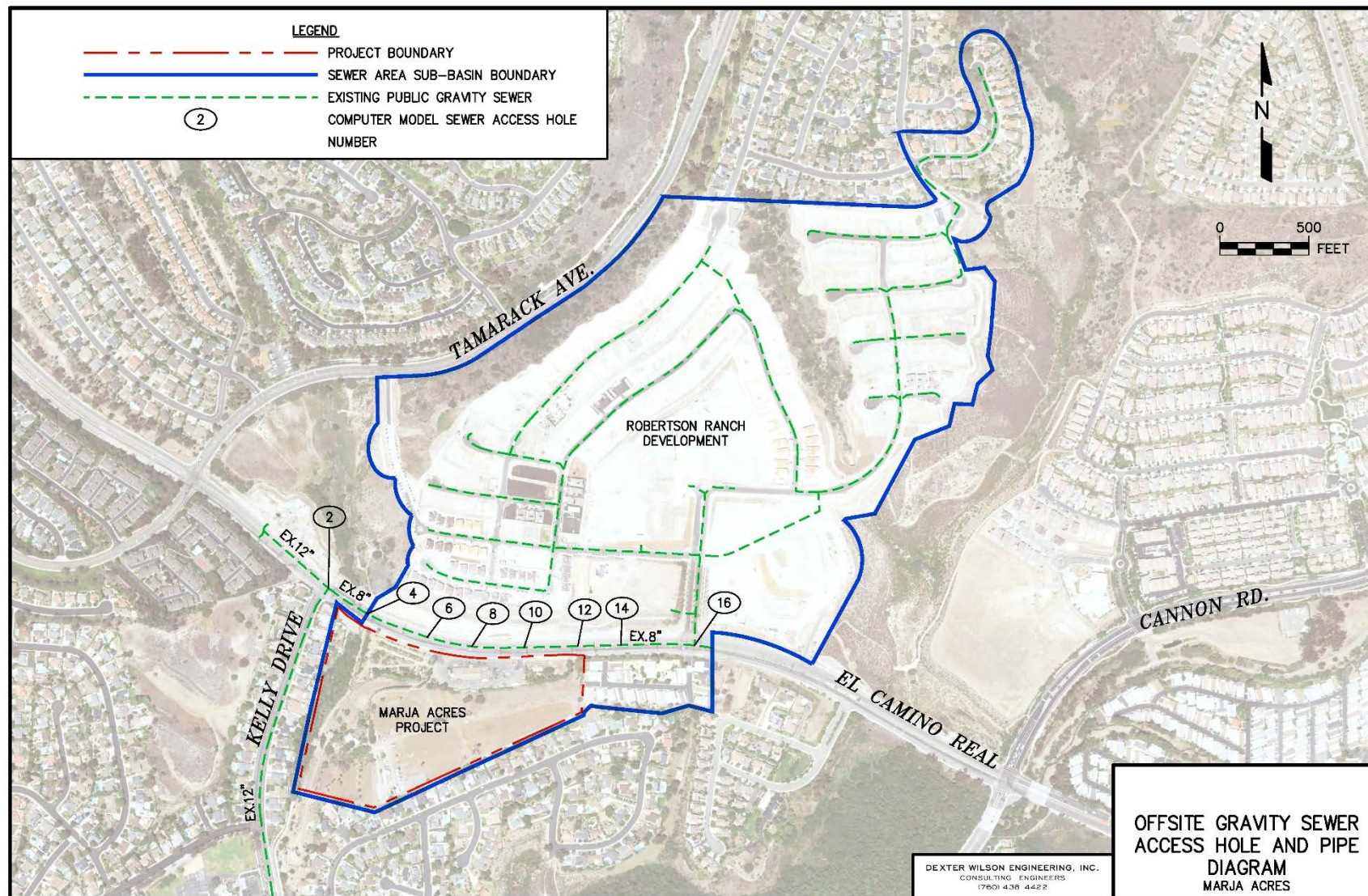
While new 8-inch sewer lines are to be designed for a maximum d/D ratio of 0.50 per the city's Engineering Standards and Master Plan, it is reasonable to allow an existing gravity sewer to flow at a d/D ratio of up to 0.75 during ultimate peak flows before recommending replacement. Based on the sewer analysis conducted for the proposed project, the existing gravity sewer lines downstream of the project site can accommodate the wastewater flows from the proposed project (Appendix L of this EIR).

Onsite Analysis

In addition to the offsite analysis, an onsite sewer analysis was completed utilizing the proposed SAH inverts. The sewer modeling results show the depth ratios in the proposed onsite gravity sewer lines to be in compliance with city design criteria (Appendix L of this EIR).

Based on the sewer analysis conducted for the proposed project, implementation would not result in a determination by the city that it has inadequate capacity to serve the project's projected demand in addition to existing commitments. Therefore, this is considered a less than significant impact.

Figure 5.15-4. Gravity Sewer Access Hole and Pipe Diagram



Source: Dexter Wilson Engineering, Inc., 2018b (Appendix L of this EIR)

Impact 5.15-6 Solid Waste Facility

Would the proposed project be served by a landfill with sufficient permitted capacity to accommodate the study area's solid waste disposal needs and comply?

The project site would be served by the Otay Landfill and Sycamore Landfill. According to the Solid Waste Facility Permit (37-AA-0010), the Otay Landfill has a maximum permitted daily capacity of 6,700 tons per day, with an estimated remaining site life to 2030 (CalRecycle 2017). According to CalRecycle's Solid Waste Information System, the Otay Landfill had a remaining capacity of 21 million cubic yards as of May 2016. Based on the remaining capacity and disposal rates, the Otay Landfill is expected to close in 2030. According to CalRecycle's Solid Waste Information System, the Sycamore Landfill has a maximum permitted daily capacity of 5,000 tons per day and a remaining capacity of 113 million cubic yards as of December 2016.

The proposed project would generate a small fraction of the daily allowed tonnage at either of these facilities and would be subject to city and state requirements regarding the diversion of solid waste from landfills. Per the *County of San Diego Five-Year Review Report of the County Integrated Waste Management Plan* (County of San Diego 2017), there is more than 15 years of solid waste disposal capacity in San Diego County, as required by state law. It is likely that changes in regulations will occur that would decrease the need for landfill capacity through new recycling measures (City of Carlsbad 2015b). Therefore, the impact is considered less than significant.

Impact 5.15-7 Compliance with Solid Waste Statutes and Regulations

Would the proposed project comply with federal, state, and local statutes and regulations related to solid waste?

As described under Impact 5.15-6, the proposed project would generate solid waste. The project site would be served by the Otay Landfill and Sycamore Landfill, both of which have remaining capacity. The project applicant would contract with a licensed waste hauler that would deposit all solid waste at a permitted solid waste facility and therefore, would comply with federal, state, and local statutes and regulations related to solid waste. No impact would occur.

5.15.4 Level of Significance before Mitigation

Implementation of the proposed project would not result in a significant impact on utilities and service systems; therefore, no mitigation measures are proposed.

5.15.5 Environmental Mitigation Measures

No mitigation measures are proposed, as no significant impacts have been identified.

5.15.6 Level of Significance after Mitigation

No significant impacts on utilities and service systems have been identified.

6 Alternatives

6.1 Introduction

The identification and analysis of alternatives is a fundamental concept under CEQA. CEQA requires the consideration of alternative development scenarios and an analysis of the potential impacts associated with those alternatives. Through comparison of these alternatives to the proposed project, the advantages of each can be weighed and analyzed. Section 15126.6(a) of the CEQA Guidelines requires that an EIR “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.”

Additionally, Sections 15126.6(e) and (f) of the CEQA Guidelines state:

- The specific alternative of “no project” shall also be evaluated along with its impact. If the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.
- The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the proposed project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making.

Pursuant to the CEQA Guidelines stated above, a range of alternatives to the proposed project is considered and evaluated in this EIR. The discussion in the section provides:

- A description of alternatives considered;
- An analysis of whether the alternatives meet most of the objectives of the proposed project; and
- A comparative analysis of the alternatives under consideration and the proposed project. The focus of this analysis is to determine if alternatives are capable of eliminating or reducing the significant environmental effects of the proposed project.

6.2 Project Objectives

The potential alternatives were evaluated in terms of their ability to meet the basic project objectives, while reducing or avoiding the environmental impacts of the proposed project identified in Section 5, Environmental Analysis, of the EIR. As discussed in Section 3, Project Description, the project's objectives are as follows:

- Promote the construction of workforce housing near existing employment centers, infrastructure, and public utilities.
- Provide a quality residential community of attached single-family homes attainably priced for young families and professionals.
- Provide low-income and very-low income age-restricted affordable housing to implement the *Carlsbad General Plan* and statewide housing goals.
- Redevelop an infill site identified in the city's Housing Element as underutilized with much-needed housing and neighborhood commercial uses.
- Design and implement a walkable mixed-use community that provides a balance of affordable and market rate housing connected to community gathering areas and commercial amenities.
- Create a new mixed-use community consistent with the goals and policies of the *Carlsbad General Plan* and LCP.
- Facilitate the establishment and operation of a community garden and vegetable stand to serve residents as well as visitors to the proposed project's commercial and gathering spaces.
- Provide pedestrian-scale, economically viable neighborhood commercial uses that serve proposed project residents and visitors while also paying homage to past uses and structures on the site.
- Provide neighborhood recreational and open space amenities that will induce residents to minimize travel, resulting in a reduction of GHG emissions.
- Design a community that encourages social interaction by integrating land use types and mobility within the community.
- Utilize context sensitive grading techniques and project design features to ensure compatibility with adjacent residential land uses.

6.3 Evaluation of Alternatives

6.3.1 No Project/No Development Alternative

The CEQA Guidelines require analysis of the No Project Alternative. According to Section 15126.6(e), "the specific alternative of 'no project' shall also be evaluated along with its impacts. The 'no project' analysis shall discuss the existing conditions at the time the NOP is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the proposed project was not approved, based on current plans and consistent with available infrastructure and community services."

The No Project/No Development Alternative assumes that the project site would not be developed with the proposed project, and the project site would remain in its current condition and current uses.

The site is currently developed and/or disturbed and includes one existing home with associated structures and various commercial-related uses including smaller retail/commercial businesses, a restaurant, liquor store, pottery sales, flower stand and commercial nursery.

Aesthetics/Grading. Under this alternative, the project site would not be developed with the proposed project thereby avoiding any grading or changes to the existing topographical conditions of the project site. Existing structures on-site would remain, and the site would not be developed with proposed residential and commercial structures. Although this alternative would avoid any topographical changes to the project site as no grading would occur, the alternative would not avoid or reduce a significant aesthetic impact, as no significant aesthetic impact has been identified associated with the proposed project.

Agriculture and Forestry Resources. According to the Department of Conservation Important Farmlands Mapping, the project site contains approximately 7.11 acres of Farmland of Statewide Importance and 1.19 acres of land mapped as Unique Farmland. Implementation of this alternative would avoid the conversion of these farmlands to urban uses. Because the project site is not identified as a coastal agriculture site, implementation of this alternative would not involve the conversion of coastal agriculture, similar to the proposed project.

Also, as with the proposed project, implementation of this alternative would not conflict with existing zoning for agricultural use, forest land as defined in PRC Section 12220(g), timberland as defined by PRC Section 4526, or timberland production as defined by CGC Section 51104(g). Overall, this alternative would not avoid a significant agricultural resources impact as no significant agricultural resources impact has been identified associated with the proposed project.

Air Quality. This alternative would result in no increase of emissions of criteria air pollutants, as no construction or development would occur. This alternative would not result in the generation of additional criteria pollutant emissions, therefore, operational emissions would be less than the proposed project; however, this alternative would not avoid a significant air quality impact as no significant air quality impact has been identified associated with the proposed project.

Biological Resources. Implementation of this alternative would avoid any potential direct or indirect impacts to biological resources. The potential for special-status animal species to occur within the project site is low because of the existing and historic uses and overall disturbed and developed state of the project site and surrounding lands, which are primarily developed with residences, commercial buildings, and roadways. No native or naturalized habitat occurs on the site. Further, the project site does not support an abundance of trees, shrubs, and other cover and resources that would attract and sustain special-status animal species that occur in the region. The existing uses and regular human activity likely preclude most special-status animals from moving onto the site and nothing would change under this alternative. -This alternative would avoid potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed since no construction would occur.

Implementation of the proposed project would cause direct and indirect impacts to marginal nesting habitat, low-quality vegetation, potential stormwater runoff, and jurisdictional waters. Implementation of this alternative would avoid these potential direct and indirect impacts to biological resources.

Cultural Resources. Implementation of this alternative would avoid any potential impacts to cultural resources associated with the proposed project, although resources identified on-site are determined to not be significant. A prehistoric site (MA-Temp-1) and two potentially historic structures (Buildings #1 and #2) were identified within the project site; however, Buildings #1 and #2 are not considered historically significant resources as defined by CEQA or city Guidelines. Because of the lack of artifacts

or a subsurface deposit, Site MA-Temp-1 does not qualify as a significant resource as defined by CEQA and city Guidelines either. Based on these considerations, the proposed project would have no impact on cultural resources; therefore, implementation of this alternative would not avoid a significant impact to cultural resources.

Implementation of this alternative would avoid the potentially significant paleontological resource impact associated with the proposed project as there would be no grading/excavation in previously undisturbed areas of the Santiago Formation (high paleontological sensitivity).

This alternative would also avoid potential impacts on any subsurface human remains resulting from construction of the proposed project that may occur during excavation and grading.

Geology/Soils. This alternative would avoid any potential impacts related to geology/soils as no new development would occur on the project site. As with the proposed project, this alternative would not expose people or structures to adverse effects from a known fault-rupture hazard zone, and no impact would occur. However, this alternative would avoid the potential impacts associated with landslide potential and unstable geological units or soils associated with the proposed project.

Greenhouse Gas Emissions/Climate Change. Under this alternative, no GHG impacts would occur as no new emissions would occur. This alternative would avoid any significant increases in GHG emissions as no new development would occur on-site. However, implementation of this alternative would not avoid a significant GHG impact associated with the proposed project, as no significant GHG impact has been identified.

Hazards and Hazardous Materials. Implementation of this alternative would neither avoid nor reduce the potential impacts associated with the use, storage, or transport of hazards and hazardous materials during construction and operation as a result of the proposed project, as a less than significant impact has been identified for the proposed project.

This alternative would avoid the potential for the proposed project to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of ACMs and LBP into the environment. While implementation of Mitigation Measure HAZ-1 would reduce this potentially significant impact to a less than significant level, this alternative would completely avoid this potential impact.

Hydrology and Water Quality. Implementation of this alternative would avoid the potential for short-term water quality impacts since no grading and construction activities would occur. This alternative would also avoid any potential new operational impacts generated from residential and commercial/retail developments, streets, and parking lots. Therefore, this alternative would avoid the potentially significant impacts to hydrology and water quality as compared to the proposed project.

Land Use Planning. Implementation of this alternative would avoid the notification requirement for new residential development constructed within the McClellan-Palomar Airport ALUCP Airport Overflight Notification Area and Review Area 2 of the AIA codified in Mitigation Measure LU-1. Therefore, this alternative would avoid this potential impact.

Noise. This alternative would avoid potential construction and operational noise impacts associated with the proposed project as no new residential or commercial development would be introduced to the project site.

This alternative would avoid potential impacts associated with noise emitted by the operation of the HVAC systems, noise levels that have the potential to exceed the city's noise standard for stationary source noise at residential uses at the nearest existing noise-sensitive receivers.

This alternative would avoid the potential long-term operational noise that would result from the various project components including off-site traffic noise along adjacent roadways, mechanical noise, and noise from rooftop deck activities.

Population/Housing. Implementation of this alternative would not reduce, or avoid, any significant population and housing impact associated with the proposed project as no significant impact has been identified.

Public Services. This alternative would not result in an increased demand for public services as compared to the proposed project because no new development would occur to require a need for such services. Implementation of this alternative would not reduce, or avoid, any significant public services impact associated with the proposed project as no significant impact has been identified.

Transportation/Circulation. This alternative would avoid any significant increases in traffic as no new development would occur on-site. This alternative would not avoid any significant traffic impacts associated with the proposed project as no significant traffic impacts have been identified.

Utilities and Service Systems. This alternative would not avoid or reduce any significant impact associated with utilities and service systems as the existing infrastructure has been designed and constructed assuming the buildout of the site per the *Carlsbad General Plan* designation.

Conclusion – No Project/No Development Alternative. Under this alternative, all the impacts associated with implementation of the proposed project would be avoided, including impacts to biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology and water quality, land use, and noise.

This alternative would not result in impacts to the remaining issue areas. As shown in Table 6-1, implementation of this alternative would not meet any of the basic objectives of the proposed project. Also, unlike the proposed project, this alternative would not develop 296 residential dwelling units on the project site. This alternative would not provide additional market rate and workforce housing or affordable housing to implement the *Carlsbad General Plan* and statewide housing goals.

Table 6-1. Attainment of Project Objectives – No Project/No Development Alternative

Project Objective	Does No Project/No Development Alternative Meet Project Objectives?
Promote the construction of workforce housing near existing employment centers, infrastructure, and public utilities.	No. The No Project/No Development Alternative assumes that the project site would not be developed with the proposed project. This alternative would not construct workforce housing on the project site.
-Provide a quality residential community of attached single-family homes attainably priced for young families and professionals.	No. The No Project/No Development Alternative would not develop 237 townhomes within the R-15 General Plan designated area and 13 townhomes within the commercially designated area.
--Provide low-income and very-low income age-restricted affordable housing to implement the <i>Carlsbad General Plan</i> and statewide housing goals.	No. The No Project/No Development Alternative would not develop 46 age-restricted affordable units on the project site.
Redevelop an infill site identified in the city's Housing Element as underutilized with much-needed housing and neighborhood commercial uses.	No. The No Project/No Development Alternative would not redevelop an infill site with housing and commercial uses as no new development at the site would occur.
-Design and implement a walkable mixed-use community that provides a balance of affordable and market rate housing connected to community gathering areas and commercial amenities.	No. This alternative would not include the development of market rate and affordable housing, new commercial uses, or recreational amenities on the project site.
Create a new mixed-use community consistent with the goals and policies of the <i>Carlsbad General Plan</i> and LCP.	No. The No Project/No Development Alternative would not create a new mixed-use community. This alternative would not include the development of market rate and affordable housing, or new commercial uses on the project site.
Facilitate the establishment and operation of a community garden and vegetable stand to serve residents as well as visitors to the proposed project's commercial and gathering spaces.	No. This alternative would not involve the development of a community garden and vegetable stand on the project site.
Provide pedestrian-scale, economically viable neighborhood commercial uses that serve proposed project residents and visitors while also paying homage to past uses and structures on the site.	No. This alternative would not include the development of new commercial uses on the project site.
Provide neighborhood recreational and open space amenities that will induce residents to minimize travel, resulting in a reduction of GHG emissions.	No. This alternative would not provide recreational and open space amenities on the project site.
Design a community that encourages social interaction by integrating land use types and mobility within the community.	No. The No Project/No Development Alternative would not create a new mixed-use community. This alternative would not include the development of market rate and affordable housing, or new commercial uses on the project site.
Utilize context sensitive grading techniques and project design features to ensure compatibility with adjacent residential land uses.	No. The No Project/No Development Alternative does not involve grading of the project site.



6.3.2 Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative

The Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative assumes that the project site would be developed pursuant to the existing residential and commercial land use designations, at the density and intensity of the existing *Carlsbad General Plan* and underlying zoning designations of the project site. The project site consists of two parcels totaling 20.65 gross acres. As shown in Table 6-2, the existing *Carlsbad General Plan* land use designations of the project site are R-15 Residential (8-15 dwelling units/acre), developed at 15 dwelling units/acre and GC General Commercial. The existing zoning designations of the project site are RD-M and C-2.

Table 6-2. Existing General Plan Land Use and Zoning Designations

APN	General Plan Land Use Designation	Zoning Designation
207-101-35	R-15 (8-15 dwelling units/acre), developed at 15 dwelling units/acre	RD-M
207-101-37	GC	C-2

Under the existing *Carlsbad General Plan* land use designation of the project site, 180 dwelling units could be constructed at the site based on the maximum density of 15 dwelling units/acre on 12 net acres for the residential parcel, which would include 36 affordable units. No density bonus would be applied. The 2015 *Carlsbad General Plan* update allocated an additional 100 dwelling units from the EDUB over the 35 units assumed in the prior General Plan, so 45 dwelling units would need to be withdrawn from the EDUB for this alternative. Additionally, this alternative considers the development potential assumed under the *Carlsbad General Plan* of the 6.2 acres of commercial uses, which would be approximately 45,000 net square feet of commercial uses with no mixed-use (residential) on the commercial parcel. In summary, this alternative would allow a total of 180 dwelling units (which would include 36 age-restricted affordable units), and 45,000 square foot of specialty retail.

Aesthetics/Grading. Under this alternative, the project site would be developed with residential and commercial uses. Due to the topographical conditions of the project site, a similar amount of grading and topographical changes would be required to implement this alternative, including accommodating necessary infrastructure and drainage. This alternative would not avoid or reduce a significant aesthetics impact, as no significant aesthetic impact has been identified associated with the proposed project. This alternative would not result in a greater aesthetics/grading impact as compared to the proposed project, as the development footprint and area of disturbance, residential building massing and landscaping would be similar to the proposed project. However, commercial building massing would be much larger under this alternative. Further, no scenic resources are identified in the project area that would be impacted by development of the project site.

Agriculture and Forestry Resources. Implementation of this alternative would result in a similar impact to agriculture and forestry resources as compared to the proposed project. Although no significant impact to agriculture and forestry resources has been identified, as with the proposed project, this alternative also would involve grading and redevelopment of the entire project site, thereby, converting the approximately 7.11 acres of Farmland of Statewide Importance and 1.19 acres of land designated as Unique Farmland to non-agricultural use, although this conversion is not considered to be significant. This alternative would not conflict with existing zoning for agricultural use,

forest land, timberland or timberland production, and no impact would occur. Overall, this alternative would not avoid a significant agricultural resources impact as no significant agricultural resources impact has been identified associated with the proposed project.

Air Quality. As with the proposed project, implementation of this alternative would result in an increase in air emissions. While less residential units would be constructed under this alternative, the development of approximately 45,000 square feet of commercial uses would result in an overall greater trip generation as compared to the proposed project (a net increase of approximately 481 ADT). Daily emissions of VOC would be higher than the proposed project and would exceed the SDAPCD significance threshold during construction. Emissions of PM_{2.5} during construction would be higher than the proposed project but less than the SDAPCD significance threshold. Emissions of NO_x, CO, SO₂, and PM₁₀ would be less than the proposed project during construction and less than the SDAPCD significance thresholds. During operation, NO_x, SO₂, PM₁₀ and PM_{2.5} emissions would be higher than the proposed project but less than the significance thresholds. Emissions of VOC and CO during operation would be less than the proposed project and the SDAPCD significance thresholds. Because this alternative would exceed the VOC significance threshold during construction, this alternative would result in a potentially significant air quality impact.

Biological Resources. Implementation of this alternative would result in a similar impact to biological resources as compared to the proposed project. As with the proposed project, this alternative would involve grading and redevelopment of the entire project site, therefore creating the potential for direct and indirect impacts, although the potential for special-status plant and animal species to occur within the project site is low. As with the proposed project, because the project site contains trees, shrubs, and other vegetation that provide marginal nesting habitat for common birds, including sensitive birds and raptors, protected under the MBTA and California FGC, implementation of Mitigation Measure BIO-1 would be required. Further, implementation of this alternative would only impact common upland habitat types (Carlsbad HMP Habitat Group F) that are not sensitive natural communities, and purchase of in-lieu fee credits under the HMP as detailed in Mitigation Measure BIO-2 would be required. As with the proposed project, compliance with existing regulations for water quality, stormwater management, and implementation of Mitigation Measure BIO-3 would be required to reduce potentially significant impacts to a less than significant level.

This alternative would also involve potential indirect effects related to non-WOUS/waters of the state and unvegetated streambed. Implementation of Mitigation Measure BIO-4 would also apply to this alternative in order to reduce the potentially significant impact to jurisdictional waters to a less than significant level.

Similar to the proposed project, if lighting is not appropriately shielded and directed downward and away, operation of this alternative has the potential to result in significant indirect impacts on wildlife potentially using off-site habitat associated with Kelly Creek. Mitigation Measure BIO-5 would ensure lighting located along the western boundary of the project site is controlled, which would reduce the potential indirect impact associated with light spillover from this alternative to a less than significant level.

Cultural Resources. Implementation of this alternative would result in a similar impact to cultural resources as the proposed project. Because existing Buildings #1 and #2 are not considered historically significant resources as defined by CEQA or city Guidelines, and Site MA-Temp-1 does not qualify as a significant archaeological resource as defined by CEQA and city Guidelines, there would be no impacts to known cultural resources. However, as with the proposed project, this alternative would involve grading and redevelopment of the entire project site. Therefore, the proposed

project would create the potential to impact previously undiscovered archaeological resources that could be encountered during grading activities. Implementation of Mitigation Measure CR-1 would reduce this impact to a less than significant level just as the proposed project.

Implementation of this alternative has the potential to disturb significant paleontological resources during grading/excavation in previously undisturbed areas of the Santiago Formation (high sensitivity). Implementation of Mitigation Measures CR-2 through CR-7 would reduce this impact to a less than significant level. Because the entirety of the site would be disturbed with the implementation of this alternative, there is the potential to impact human remains during grading activities and implementation of Mitigation Measure CR-8 would be required to reduce this impact to a less than significant level.

Geology/Soils. Implementation of this alternative would result in similar impacts related to geology and soils as the proposed project. The project site would be graded to accommodate development, and new structures and buildings would be located on the project site. Like the proposed project, impacts related to seismic shaking would not significantly expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death. Also, there is a potential for liquefaction, landslides, undocumented fill, surficial deposits of colluvium, near surface deposits of alluvium, and expansive soils to occur on the project site with this alternative. Implementation of Mitigation Measure GEO-1 would be required to address these potential geologic hazards.

Greenhouse Gas Emissions/Climate Change. Implementation of this alternative would not avoid or reduce a potential GHG/climate change impact as no significant impact related to this environmental issue has been identified. GHG emissions would also be generated during construction of this alternative. Additionally, operation of this alternative would generate GHG emissions through motor vehicle trips to and from the project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the proposed project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. This alternative would generate 2,951 MTCO₂e per year, which is greater than the proposed project and the CAP screening threshold.

With respect to the city's CAP, this alternative would emit greater than 900 MTCO₂e as the approximately 45,000 square feet of commercial development and 180 dwelling units would emit 2,951 MTCO₂e, which exceed the threshold noted in the CAP checklist question. However, this alternative is consistent with the *Carlsbad General Plan* and zoning of the project site, which maintains consistency with the city's CAP. Moreover, this alternative would have to implement the measures within the CAP checklist, and thus, this alternative would be consistent with the CAP. As such, there would be no significant impact on climate change.

Hazards and Hazardous Materials. Implementation of this alternative would result in a similar impact to hazards and hazardous materials as the proposed project. This alternative would have the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of ACMs and LBP into the environment. Implementation of Mitigation Measure HAZ-1 would be required in order to reduce this potentially significant impact to a less than significant level.

Hydrology and Water Quality. Implementation of this alternative would result in similar impacts related to short-term water quality as the site would be graded and redeveloped in order to implement this alternative. This alternative would result in an increase in impervious surfaces of a similar type and scope as the proposed project, and thus would have comparable operational impacts generated from residential and commercial/retail developments, streets, and parking lots. Similar to the proposed project, this alternative will be required to incorporate LID site design, source control, pollutant control,

and hydromodification management BMPs into the project design. Overall, the impact related to hydrology and water quality would be similar to the proposed project.

Land Use Planning. Implementation of this alternative would result in a similar impact as the proposed project with respect to Land Use Planning. As with the proposed project, this alternative would trigger the notification requirement for new residential development constructed within the McClellan-Palomar Airport ALUCP Airport Overflight Notification Area and Review Area 2 of the AIA codified in Mitigation Measure LU-1.

Noise. Implementation of this alternative would result in a similar impact to noise associated with the proposed project. Mitigation Measures NOI-1 and NOI-2 would be necessary to ensure that on-site noise levels comply with city noise standards for private exterior living areas and city and State noise standards for habitable rooms. As with the proposed project, this alternative would involve the placement of HVAC systems that would have the potential to impact nearby sensitive noise receptors. Implementation of Mitigation Measure NOI-3 would be required to ensure that noise from HVAC equipment is in compliance with the city's Noise Guidelines Manual. This alternative would have potential impacts to adjacent residences related to noise from rooftop deck activities. Implementation of Mitigation Measure NOI-4 will reduce the impact associated with rooftop deck noise to a less than significant level. Additionally, because the traffic volumes associated with the alternative would be higher than under the proposed project, the noise levels created by project-related traffic would be slightly higher, although in the context of the overall traffic volumes along the local roadways, this change would likely not be audible at noise-sensitive land uses.

Population/Housing. Implementation of this alternative would not reduce, or avoid, any significant population and housing impact associated with the proposed project as no significant impact has been identified.

Under this alternative, 180 residential dwelling units would be developed on the project site. In accordance with the adopted *Carlsbad General Plan*, which stipulates that 20% of the units be affordable housing, 36 units of the 180 total units would be required to be affordable.

Public Services. Public service requirements would not be appreciably different from the proposed project. Implementation of this alternative would not reduce, or avoid, any significant public services impact associated with the proposed project as no significant impact has been identified.

Transportation/Circulation. Implementation of this alternative would not avoid or reduce a transportation/circulation impact, as no significant transportation/circulation impact has been identified associated with the proposed project. This alternative would generate approximately 2,540 average daily vehicular trips, which is approximately 481 average daily trips more than the proposed project trip generation. This alternative is calculated to result in 142 AM peak hour trips, which is approximately 36 AM peak hour trips less than the proposed project. Approximately 221 PM peak hour trips would be generated under this alternative, which is approximately 48 additional trips as compared to the proposed project.

Utilities and Service Systems. This alternative would not avoid or reduce any significant impact associated with utilities and service systems as the existing infrastructure has been designed and constructed assuming the buildout of the site per the *Carlsbad General Plan* designation.

Conclusion – Existing Carlsbad General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative. Under this alternative, impacts would be similar as compared to the proposed project, although the alternative would generate greater ADT, air emissions, and GHG emissions during operation as compared to the proposed project. This



alternative would not avoid or reduce any of the significant project impacts. As shown in Table 6-3, this alternative would not meet several of the objectives of the proposed project.

Table 6-3. Attainment of Project Objectives – Existing Carlsbad General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative

Project Objective	Does Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative Meet Project Objectives?
Promote the construction of workforce housing near existing employment centers, infrastructure and public utilities.	Yes. This alternative would construct 180 residential dwelling units in close proximity to existing employment centers.
Provide a quality residential community of attached single-family homes attainably priced for young families and professionals.	Yes. This alternative would construct 144 attached single-family homes attainably priced for young families and professionals.
Provide low-income and very-low income age-restricted affordable housing to implement the <i>Carlsbad General Plan</i> and statewide housing goals.	No. In accordance with Chapter 21.85 of the CMC, this alternative will meet the requirements of the Inclusionary Housing Ordinance by providing 36 age-restricted affordable housing units. However, Chapter 21.85 does not stipulate the level of affordability. The project provides 42 units restricted to low income households and four units restricted to very-low income households, whereas this alternative could provide zero units restricted to very-low income households.
Redevelop an infill site identified in the city's Housing Element as underutilized with much-needed housing and neighborhood commercial uses.	Yes. This alternative would construct 180 attached single-family homes attainably priced for young families and professionals and would include 45,000 square feet of new commercial development.
Design and implement a walkable mixed-use community that provides a balance of affordable and market rate housing connected to community gathering areas and commercial amenities.	No. This alternative would not provide for a mixed-use component as the 45,000 square feet of commercial uses would preclude the combination of uses on the commercial parcel. -
Create a new mixed-use community consistent with the goals and policies of the <i>Carlsbad General Plan</i> and LCP.	No. While this alternative would develop the project site consistent with the goals and policies of the <i>Carlsbad General Plan</i> and LCP, it would not provide for a mixed-use component of residential and specialty retail, as the 45,000 square feet of commercial uses would preclude the combination of uses on the commercial parcel. -
Facilitate the establishment and operation of a community garden and vegetable stand to serve residents as well as visitors to the proposed project's commercial and gathering spaces.	No. This alternative would not facilitate the establishment and operation of a community garden and vegetable stand to serve residents and visitors as the garden is a unique feature of the proposed project that can only be accommodated by constructing a lesser amount of commercial square footage.
Provide pedestrian-scale, economically viable neighborhood commercial uses that serve proposed project residents and visitors while also paying homage to past uses and structures on the site.	No. This alternative involves the construction of 45,000 net square feet of commercial uses; however, it would not be possible to accommodate the theme and scale of the project's specialty retail intended to pay homage to past uses and structures on the property, as 45,000 square feet of retail would be constructed under this alternative.

Table 6-3. Attainment of Project Objectives – Existing Carlsbad General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative

Project Objective	Does Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative Meet Project Objectives?
Provide neighborhood recreational and open space amenities that will induce residents to minimize travel, resulting in a reduction of GHG emissions.	Yes. This alternative would be required to provide neighborhood recreational and open space amenities in compliance with Section 21.45.060 of the CMC.
Design a community that encourages social interaction by integrating land use types and mobility within the community.	No. Because this alternative would involve development of 45,000 square feet of new commercial uses, it is less likely to allow or encourage social interaction by integrating land use types and mobility within the community. Active and passive recreational opportunities, pedestrian connections within the neighborhood to the various amenities would be less viable. This alternative would not construct a specialty retail center to serve the neighborhood.
Utilize context sensitive grading techniques and project design features to ensure compatibility with adjacent residential land uses.	No. Grading of the project site is subject to the city's Hillside Development Ordinance as project areas contain hillside conditions that are defined as slopes greater than 15 feet in height and 15 percent in slope. In order to maximize the privacy of the existing adjacent homes, the project proposes to significantly lower the higher topographical elevations located along the southern portion of the site to improve compatibility with the adjacent residences through a density bonus waiver request to exceed Hillside Development Ordinance grading volumes. This alternative does not include a density bonus request, and therefore could not request a waiver to exceed grading volumes for improved compatibility. While this alternative would comply with grading volumes and other hillside requirements, it would not be able to significantly lower the higher topographical elevations along the southern portion of the site to ensure compatibility with adjacent residential land uses.

6.3.3 Reduced Project (No Density Bonus/Growth Management Control Point General Plan Density) Alternative

The Reduced Project (No Density Bonus/Growth Management Control Point [GMCP] General Plan Density) assumes that the residentially designated portion of the project site would be developed at a GMCP of 12 dwelling units per acre. The square footage and type of commercial uses would be consistent with the currently proposed project.

Under this alternative, approximately 144 attached residential units (townhomes or condominiums) would be developed, on the residential parcel, with approximately 29 units dedicated as affordable units. This alternative would include approximately 25,000 square feet of commercial development on the commercial parcel, consisting of 15,000 square feet of specialty retail and 10,000 square feet of restaurant). No density bonus would be applied.

Aesthetics/Grading. Under this alternative, the project site would be developed with residential and commercial uses. Due to the topographical conditions of the project site, it is likely that a similar amount

of grading and topographical changes would be required to implement this alternative, including accommodating necessary infrastructure and drainage. This alternative would not avoid or reduce a significant aesthetics impact, as no significant aesthetic impact has been identified associated with the proposed project. This alternative would not result in a greater aesthetics/grading impact as compared to the proposed project, as the development footprint and area of disturbance, building massing and landscaping would be similar to the proposed project. Further, no scenic resources are identified in the project area that would be impacted by development of the project site.

Agriculture and Forestry Resources. Implementation of this alternative would involve grading and redevelopment of the entire project site, therefore, converting the approximately 7.11 acres of Farmland of Statewide Importance and 1.19 acres of land designated as Unique Farmland to non-agricultural use. This alternative would not conflict with existing zoning for agricultural use, forest land, timberland or timberland production, and no impact would occur. Because no significant impact to agriculture has been identified associated with the proposed project, this alternative would not avoid or reduce the impact to this issue area.

Air Quality. As with the proposed project, implementation of this alternative would result in an increase in air emissions. While less residential units would be constructed under this alternative, the development of approximately 25,000 square feet of commercial uses would result in an overall greater trip generation as compared to the proposed project (a net increase of approximately 258 ADT). This alternative would result in greater emissions of VOC, PM₁₀, and PM_{2.5} during construction compared to the proposed project, but less than the SDAPCD significance thresholds. This alternative's NO_x, CO, and SO₂ emissions would be less than the proposed project and would not exceed the SDAPCD significance thresholds for these criteria pollutants during construction. During operation, the emissions associated with this alternative for most of the criteria pollutants would be less than the proposed project and would not exceed the SDAPCD significance thresholds. However, NO_x would be greater than the proposed project, but would still be less than the significance threshold.

Biological Resources. Implementation of this alternative would result in a similar impact to biological resources as the proposed project. As with the proposed project, this alternative would involve grading and redevelopment of the entire project site, thereby creating the potential for direct and indirect impacts, although the potential for special-status plant and animal species to occur within the project site is low. As with the proposed project, because the site contains trees, shrubs, and other vegetation that provide marginal nesting habitat for common birds, including sensitive birds and raptors, protected under the MBTA and California FGC, implementation of Mitigation Measure BIO-1 would be required. Further, implementation of this alternative would only impact common upland habitat types (Carlsbad HMP Habitat Group F) that are not sensitive natural communities, and purchase of in-lieu fee credits under the HMP as detailed in Mitigation Measure BIO-2 would be required. As with the proposed project, compliance with existing regulations for water quality, stormwater management, and implementation of Mitigation Measure BIO-3 would be required to reduce potentially significant impacts to a less than significant level.

This alternative would also involve potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed. Implementation of Mitigation Measure BIO-4 would also apply to this alternative in order to reduce the potentially significant impact to jurisdictional waters to a less than significant level.

Similar to the proposed project, if lighting is not appropriately shielded and directed downward and away, operation of this alternative has the potential to result in significant indirect impacts on wildlife

using off-site habitat associated with Kelly Creek. Mitigation Measure BIO-5, would also be applicable to this alternative, which would ensure lighting located along the western boundary of the project site is controlled, and would reduce the potential indirect impact associated with light spillover from this alternative to a less than significant level.

Cultural Resources. Implementation of this alternative would result in a similar impact to cultural resources as the proposed project. Because existing Buildings #1 and #2 are not considered historically significant resources as defined by CEQA or city Guidelines, and Site MA-Temp-1 does not qualify as a significant archaeological resource as defined by CEQA and city Guidelines, there would be no impacts to known cultural resources. However, as with the proposed project, this alternative would involve grading and redevelopment of the entire project site, therefore creating the potential to impact previously undiscovered archaeological resources that could be encountered during grading activities. Implementation of Mitigation Measure CR-1 would reduce this impact to a less than significant level.

Additionally, implementation of this alternative has the potential to disturb significant paleontological resources during grading/excavation in previously undisturbed areas of the Santiago Formation (high sensitivity). Implementation of Mitigation Measures CR-2 through CR-7 would reduce this impact to a less than significant level. Because the entirety of the site would be disturbed with the implementation of this alternative, there is also the potential to impact human remains during grading activities and implementation of Mitigation Measure CR-8 would be required to reduce this impact to a less than significant level.

Geology/Soils. Implementation of this alternative would result in similar impacts related to geology and soils as the proposed project, as the project site would be graded to accommodate development, and new structures and buildings would be located on the project site. Similar to the proposed project, impacts related to seismic shaking would not significantly expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death. Also, there is a potential for liquefaction, landslides, undocumented fill, surficial deposits of colluvium, near surface deposits of alluvium, and expansive soils to occur on the project site and, as with the proposed project, implementation of Mitigation Measure GEO-1 would be required to address these potential geologic hazards.

Greenhouse Gas Emissions/Climate Change. Implementation of this alternative would not avoid or reduce a potential GHG/climate change impact as no significant impact related to this environmental issue has been identified. GHG emissions would be generated during construction of this alternative. Additionally, operation of this alternative would generate GHG emissions through motor vehicle trips to and from the project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the proposed project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. This alternative would emit 2,489 MTCO_{2e} per year, which would exceed the CAP screening threshold, and is greater than the proposed project.

With respect to the city's CAP, this alternative includes 25,000 square feet of commercial use, and 144 dwelling units, and therefore, this alternative would emit greater than 900 MTCO_{2e}. Thus, this alternative exceeds the thresholds noted in the CAP checklist question. However, this alternative is consistent with the *Carlsbad General Plan* and zoning of the project site, which maintains consistency with the city's CAP. This alternative would have to implement the measures within the CAP checklist, and therefore it would be consistent with the CAP. Thus, development of this alternative would not result in a significant impact on climate change.

Hazards and Hazardous Materials. Implementation of this alternative would result in a similar impact to hazards and hazardous materials as the proposed project. As with the proposed project, this alternative would have the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of ACMs and LBP into the environment. As with the proposed project, this alternative would require the implementation of Mitigation Measure HAZ-1 in order to reduce this potentially significant impact to a less than significant level.

Hydrology and Water Quality. Implementation of this alternative would result in similar impacts related to short-term water quality as the site would be graded and redeveloped in order to implement this alternative. This alternative would also result in similar operational impacts generated from residential and commercial/retail developments, streets, and parking lots. Similar to the proposed project, this alternative will be required to incorporate LID site design, source control, pollutant control, and hydromodification management BMPs into the project design. Overall, the impact related to hydrology and water quality would be similar to the proposed project.

Land Use Planning. Implementation of this alternative would result in a similar impact as the proposed project with respect to Land Use Planning. As with the proposed project, this alternative would trigger the notification requirement for new residential development constructed within the McClellan-Palomar Airport ALUCP Airport Overflight Notification Area and Review Area 2 of the AIA codified in Mitigation Measure LU-1.

Noise. Implementation of this alternative would result in a similar impact to noise associated with the proposed project. Mitigation Measures NOI-1 and NOI-2 would likely be necessary to ensure that on-site noise levels comply with city noise standards for private exterior living areas and city and State noise standards for habitable rooms. As with the proposed project, this alternative would involve the placement of HVAC systems that would have the potential to impact nearby sensitive noise receptors. Implementation of Mitigation Measure NOI-3 would be required to ensure that noise from HVAC equipment is in compliance with the city's Noise Guidelines Manual. This alternative would have potential impacts to adjacent residences related to noise from rooftop deck activities. Implementation of Mitigation Measure NOI-4 will reduce the impact associated with rooftop deck noise to a less than significant level. Because the traffic volumes associated with this alternative would be greater than the proposed project, the noise levels created by project-related traffic would be higher. In the context of the overall traffic volumes along the local roadways; however, this change would likely not be audible at noise-sensitive land uses.

Population/Housing. Implementation of this alternative would not reduce, or avoid, any significant population and housing impact associated with the proposed project as no significant impact has been identified.

Public Services. Implementation of this alternative would not reduce, or avoid, any significant public services impact associated with the proposed project as no significant impact has been identified.

Transportation/Circulation. Implementation of this alternative would not avoid or reduce a transportation/circulation impact, as no significant transportation/circulation impact has been identified associated with the proposed project. This alternative would generate approximately 2,317 average daily vehicular trips, which is approximately 258 average daily trips more than the proposed project trip generation. This alternative is calculated to result in 187 AM peak hour trips, which is approximately 9 AM peak hour trips more than the proposed project. Approximately 182 PM peak hour trips would be generated under this alternative, which is approximately 9 more trips as compared to the project.

Utilities and Service Systems. This alternative would not avoid or reduce any significant impact associated with utilities and service systems as the existing infrastructure has been designed and constructed assuming the buildout of the site per the *Carlsbad General Plan* designation.

Conclusion – Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative. Under this alternative, impacts would be similar as compared to the proposed project, although it would generate more ADT, air emissions, and GHG emissions. This alternative would not avoid or reduce any of the significant project impacts. As shown in Table 6-4, this alternative would not meet several of the objectives of the proposed project.

Table 6-4. Attainment of Project Objectives – Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative

Project Objective	Does Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative Meet Project Objectives?
Promote the construction of workforce housing near existing employment centers, infrastructure and public utilities.	Yes. This alternative would construct 144 residential dwelling units in close proximity to existing employment centers.
Provide a quality residential community of attached single-family homes attainably priced for young families and professionals.	No. This alternative would construct 144 attached single-family homes, with no variety in housing types (i.e. single-family homes, apartments, and condominiums). The lower density and lack of variety would result in a project that would be less attainable for young families and professionals.
Provide low-income and very-low income age-restricted affordable housing to implement the <i>Carlsbad General Plan</i> and statewide housing goals.	No. In accordance with the <i>Carlsbad General Plan</i> stipulation for the site, this alternative will meet the requirements of the Inclusionary Housing Ordinance; however it would only provide 29 affordable units. Moreover, CMC Chapter 21.85 does not stipulate the level of affordability, and this alternative could provide zero units restricted to very-low income households compared to the project's four units restricted to very-low income households out of the 46 total affordable units.-
Redevelop an infill site identified in the city's Housing Element as underutilized with much-needed housing and neighborhood commercial uses.	Yes. This alternative would redevelop the project site with 144 additional housing units and would include 25,000 square feet of commercial development consisting of 15,000 square feet of specialty retail and 10,000 square feet of restaurant.
Design and implement a walkable mixed-use community that provides a balance of affordable and market rate housing connected to community gathering areas and commercial amenities.	No. While this alternative would provide active and passive recreational opportunities, pedestrian connections within the neighborhood to the various amenities, and a new local commercial center to serve the neighborhood, it would provide less housing and less synergy between project residents and amenities that would be provided on the site. Moreover, this alternative would not provide for a mixed-use component of residential and specialty retail on the commercial parcel. -
Create a new mixed-use community consistent with the goals and policies of the <i>Carlsbad General Plan</i> and LCP.	No. While this alternative would develop the project site consistent with the goals and policies of the <i>Carlsbad General Plan</i> and LCP, it would not provide for a mixed-use component of residential and specialty retail on the commercial parcel. -



Table 6-4. Attainment of Project Objectives – Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative

Project Objective	Does Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative Meet Project Objectives?
Facilitate the establishment and operation of a community garden and vegetable stand to serve residents as well as visitors to the proposed project's commercial and gathering spaces.	Yes. This alternative would facilitate the establishment and operation of a community garden and vegetable stand to serve residents as well as visitors to the project's commercial and gathering spaces.
Provide pedestrian-scale, economically viable neighborhood commercial uses that serve proposed project residents and visitors while also paying homage to past uses and structures on the site.	No. This alternative involves the construction of 25,000 square feet of commercial development on the commercial parcel (15,000 square feet of specialty retail and 10,000 square feet of restaurant); however, less residential would be developed, which would not be consistent with the objective to provide a new development with a pedestrian scale and economically viable neighborhood.
Provide neighborhood recreational and open space amenities that will induce residents to minimize travel, resulting in a reduction of GHG emissions.	Yes. This alternative will provide neighborhood recreational and open space amenities in compliance with Section 21.45.060 of the CMC.
Design a community that encourages social interaction by integrating land use types and mobility within the community.	Yes. This alternative provides for specialty retail adjacent to a residential neighborhood that could encourage social interaction by complementary land use types and mobility within the community. This alternative would provide active and passive recreational opportunities, pedestrian connections within the neighborhood to the various amenities, and a new local specialty retail center to serve the neighborhood.
Utilize context sensitive grading techniques and project design features to ensure compatibility with adjacent residential land uses.	No. Grading of the project site is subject to the city's Hillside Development Ordinance as project areas contain hillside conditions that are defined as slopes greater than 15 feet in height and 15 percent in slope. In order to maximize the privacy of the existing adjacent homes, the project proposes to significantly lower the higher topographical elevations located along the southern portion of the site to improve compatibility with the adjacent residences through a density bonus waiver request to exceed Hillside Development Ordinance grading volumes. This alternative does not include a density bonus request, and therefore could not request a waiver to exceed grading volumes for improved compatibility. While this alternative would comply with grading volumes and other hillside requirements, it would not be able to significantly lower the higher topographical elevations along the southern portion of the site to ensure compatibility with adjacent residential land uses.

6.3.4 Previously Proposed Plan Alternative

Under this alternative, a total of 218 dwelling units plus 15 inclusionary accessory residential dwelling units (ADU) for a total of 233 dwelling units, and up to 16,000 square feet of commercial would be developed as follows:

- 32 Single-Family Residences

- 151 Townhomes
- 35 age-restricted, inclusionary multi-family units,
- 15 ADUs(to complete the on-site inclusionary housing requirements)
- 8,000 square feet retail uses
- 8,000 square feet restaurant

This alternative would reduce the acreage and boundary of the existing General Commercial land use are from 6.26 acres to 0.97 acres, which in turn would increase the R-15 residential area from 14.39 acres to 19.86 acres.

- This alternative requires an allocation of 83 dwelling units from the city's Excess Dwelling Unit Bank and the following approvals:
- General Plan Land Use Element Amendment to increase R-15 Residential and decrease the GC Commercial acreages
- Zone Change to increase residential density-multiple (RD-M) and decrease General Neighborhood Commercial (C-2) acreages;
- Specific Plan; and
- LCP Amendment

Aesthetics/Grading. Under this alternative, the project site would be developed with residential and commercial uses. Due to the topographical conditions of the project site, it can be assumed that a similar amount of grading and topographical changes would be required to implement this alternative, including accommodating necessary infrastructure and drainage. This alternative would not avoid or reduce a significant aesthetics impact, as no significant aesthetic impact has been identified associated with the proposed project. This alternative would not result in a greater aesthetics/grading impact as compared to the proposed project, as the development envelop, area of disturbance, building massing and landscaping would be similar to the proposed project. Further, no scenic resources are identified in the project area that would be impacted by development of the project site.

Agriculture and Forestry Resources. Similar to the proposed project, implementation of this alternative would involve grading and redevelopment of the entire project site, therefore, converting the approximately 7.11 acres of Farmland of Statewide Importance and 1.19 acres of land designated as Unique Farmland to non-agricultural use; although this conversion is not considered significant. Also, this alternative would not conflict with existing zoning for agricultural use, forest land, timberland or timberland production, and no impact would occur. Overall, this alternative would not avoid a significant agricultural resources impact as no significant agricultural resources impact associated with the proposed project has been identified.

Air Quality. As with the proposed project, implementation of this alternative would result in an increase in air emissions. While less residential units would be constructed under this alternative, the development of approximately 16,000 square feet of commercial uses would result in an overall greater trip generation as compared to the proposed project (a net increase of approximately 214 ADT). Daily emissions of VOC would be higher than the proposed project and would exceed the SDAPCD significance threshold during construction. Emissions of PM_{2.5} during construction would be higher than the proposed project but would not exceed the SDAPCD significance threshold. Emissions of NO_x, CO, SO₂ and PM₁₀ would be less than the proposed project during construction and less than

the SDAPCD significance thresholds. During operation, emissions of NO_x, SO₂, and PM_{2.5} would be higher than the proposed project, but would not exceed the SDAPCD significance thresholds. VOC, CO, and PM₁₀ emissions would be less than the proposed project and the SDAPCD significance thresholds. Because this alternative would exceed the VOC significance threshold during construction, this alternative would result in a potentially significant impact.

Biological Resources. Implementation of this alternative would result in a similar impact to biological resources as the proposed project. As with the proposed project, this alternative would involve grading and redevelopment of the entire project site, therefore creating the potential for direct and indirect impacts, although the potential for special-status plant and animal species to occur within the project site is low. As with the proposed project, because the site contains trees, shrubs, and other vegetation that provide marginal nesting habitat for common birds, including sensitive birds and raptors, protected under the MBTA and California FGC, implementation of Mitigation Measure BIO-1 would be required. Further, implementation of this alternative would only impact common upland habitat types (Carlsbad HMP Habitat Group F) that are not sensitive natural communities, and purchase of in-lieu fee credits under the HMP as detailed in Mitigation Measure BIO-2 would be required. As with the proposed project, compliance with existing regulations for water quality, stormwater management, and implementation of Mitigation Measure BIO-3 would be required to reduce potentially significant impacts to a less than significant level.

This alternative would also involve potential indirect effects as compared to the proposed project related to non-wetland WOUS/waters of the state and unvegetated streambed. Implementation of Mitigation Measure BIO-4 would also apply to this alternative in order to reduce the potentially significant impact to jurisdictional waters to a less than significant level.

Similar to the proposed project, operation of this alternative has the potential to result in significant indirect impacts on wildlife using off-site habitat associated with Kelly Creek if lighting is not appropriately shielded and directed downward and away. Mitigation Measure BIO-5 would ensure lighting located along the western boundary of the project site is controlled, which would reduce the potential indirect impact associated with light spillover from this alternative to a less than significant level.

Cultural Resources. Implementation of this alternative would result in a similar impact to cultural resources as the proposed project. Because existing Buildings #1 and #2 are not considered historically significant resources as defined by CEQA or city Guidelines, and Site MA-Temp-1 does not qualify as a significant archaeological resource as defined by CEQA and the city's Guidelines, there would be no impacts to known cultural resources. However, as with the proposed project, this alternative would involve grading and redevelopment of the entire project site, therefore creating the potential to impact previously undiscovered archaeological resources could be encountered during grading activities. Implementation of Mitigation Measure CR-1 would reduce this impact to a less than significant level.

Additionally, implementation of this alternative has the potential to disturb significant paleontological resources during grading/excavation in previously undisturbed areas of the Santiago Formation (high sensitivity). As with the proposed project, implementation of Mitigation Measures CR-2 through CR-7 would reduce this impact to a less than significant level. Because the entirety of the site would be disturbed with the implementation of this alternative, there is also the potential to impact human remains during grading activities and implementation of Mitigation Measure CR-8 would be required to reduce this impact to a less than significant level.

Geology/Soils. Implementation of this alternative would result in similar impacts related to geology and soils as the proposed project, as the site would be graded to accommodate development, and new structures and buildings would be located on the project site. Similar to the proposed project, impacts related to seismic shaking would not significantly expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death. Also, there is a potential for liquefaction, landslides, undocumented fill, surficial deposits of colluvium, near surface deposits of alluvium, and expansive soils to occur on the project site and, as with the proposed project, implementation of Mitigation Measure GEO-1 would be required to address these potential geologic hazards.

Greenhouse Gas Emissions/Climate Change. Implementation of this alternative would not avoid or reduce a potential GHG/climate change impact as no significant impact related to this environmental issue has been identified. GHG emissions would be generated during construction of this alternative. Additionally, operation of this alternative would generate GHG emissions through motor vehicle trips to and from the project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. This alternative would generate 2,965 MTCO₂e per year, which is greater than the CAP screening threshold and the proposed project's GHG emissions.

With respect to the city's CAP, this alternative would emit greater than 900 MTCO₂e as the approximately 16,000 square feet of commercial development and 233 dwelling units would emit 2,965 MTCO₂e, which exceeds the threshold noted in the CAP checklist question. This alternative would require a Carlsbad General Plan Amendment and Zone Change in order to implement the proposed uses, which means that this alternative is not consistent with the city's CAP. However, this alternative would have to implement the measures within the CAP checklist, and thus, this alternative would be consistent with the CAP. As such, this alternative would not have a significant climate change impact. A detailed evaluation and consistency analysis would be required to determine whether implementation of this alternative would maintain consistency with the city's CAP.

Hazards and Hazardous Materials. Implementation of this alternative would result in a similar impact to hazards and hazardous materials as the proposed project. As with the proposed project, this alternative would have the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of ACMs and LBP into the environment. Similar to the proposed project, implementation of Mitigation Measure HAZ-1 would be required in order to reduce this potentially significant impact to a less than significant level.

Hydrology and Water Quality. Implementation of this alternative would result in similar impacts related to short-term water quality as the site would be graded and redeveloped in order to implement this alternative. This alternative would also result in similar operational impacts generated from residential and commercial/retail developments, streets, and parking lots. Similar to the proposed project, this alternative will be required to incorporate LID site design, source control, pollutant control, and hydromodification management BMPs into the proposed project design. Overall, the impact related to hydrology and water quality would be similar to the proposed project.

Land Use Planning. Implementation of this alternative would result in a similar impact as the proposed project with respect to Land Use Planning. As with the proposed project, this alternative would trigger the notification requirement for new residential development constructed within the McClellan-Palomar Airport ALUCP Airport Overflight Notification Area and Review Area 2 of the AIA as codified in Mitigation Measure LU-1.

Noise. Implementation of this alternative would result in a similar impact to noise associated with the proposed project. Mitigation Measures NOI-1 and NOI-2 would be necessary to ensure that on-site noise levels comply with city noise standards for private exterior living areas and city and State noise standards for habitable rooms. As with the proposed project, this alternative would involve the placement of HVAC systems that would have the potential to impact nearby sensitive noise receptors. Implementation of Mitigation Measure NOI-3 would be required to ensure that noise from HVAC equipment is in compliance with the city's Noise Guidelines Manual. This alternative would also have potential impacts to adjacent residences related to noise from rooftop deck activities on some townhomes located adjacent to the perimeter. Implementation of Mitigation Measure NOI-4 will reduce the impact associated with rooftop deck noise to a less than significant level. Because the traffic volumes associated with this alternative would be greater than the proposed project, the noise levels created by project-related traffic would be higher. In the context of the overall traffic volumes along the local roadways; however, this change would likely not be audible at noise-sensitive land uses.

Population/Housing. Implementation of this alternative would not reduce, or avoid, any significant population and housing impact associated with the proposed project as no significant impact has been identified.

Public Services. Implementation of this alternative would not reduce, or avoid, any significant public services impact associated with the proposed project as no significant impact has been identified.

Transportation/Circulation. Implementation of this alternative would not avoid or reduce a transportation/circulation impact, as no significant transportation/circulation impact has been identified associated with the proposed project. This alternative would generate approximately 2,273 average daily vehicular trips, which is approximately 214 average daily trips greater than the proposed project trip generation. This alternative is calculated to result in 196 AM peak hour trips, which is approximately 18 AM peak hour trips greater than the proposed project. Approximately 185 PM peak hour trips would be generated under this alternative, which is approximately 12 more trips as compared to the proposed project.

Utilities and Service Systems. This alternative would not avoid or reduce any significant impact associated with utilities and service systems as the existing infrastructure has been designed and constructed assuming the buildout of the site per the *Carlsbad General Plan* designation.

Conclusion – Previously Proposed Plan Alternative. Under this alternative, impacts would be similar as compared to the proposed project, although this alternative would generate more ADT, air emissions, and GHG emissions as compared to the proposed project. This alternative would not avoid or reduce any of the significant project impacts. As shown in Table 6-5, this alternative would meet most of the basic objectives of the proposed project.

Table 6-5. Attainment of Project Objectives – Previously Proposed Plan Alternative

Project Objective	Does Previously Proposed Plan Alternative Meet Project Objectives?
Promote the construction of workforce housing near existing employment centers, infrastructure, and public utilities.	Yes. This alternative would construct 32 single-family residences, 151 townhomes, and 15 accessory residential dwelling units in close proximity to existing employment centers.
Provide a quality residential community of attached single-family homes attainably priced for young families and professionals.	Yes. This alternative would construct 32 single-family residences, 151 townhomes and 15 accessory residential dwelling units attainably priced for young families and professionals.
Provide low-income and very-low income age-restricted affordable housing to implement the <i>Carlsbad General Plan</i> and statewide housing goals.	No. In accordance with CMC Chapter 21.85, this alternative will partially meet the requirements of the Inclusionary Housing Ordinance by providing 35 age-restricted, inclusionary multi-family units. However, this alternative proposes 15 inclusionary accessory residential dwelling units (ADUs), which is an alternative to the construction of new inclusionary units per CMC Section 21.85.070. The city's Housing Director determined that the proposed 15 ADUs were not adequate to meet the <i>Carlsbad General Plan</i> and statewide housing goals for this size of project, and that no alternatives to construction of units should be granted. Additionally, the city's Housing Director determined that the proposed 35 age-restricted inclusionary units were not a sufficient number of units to create a viable long-term inclusionary housing project. Moreover, CMC Chapter 21.85 does not stipulate the level of affordability, and this alternative could provide zero units restricted to very-low income households compared to the project's four units restricted to very-low income households out of the 46 total affordable units. -
Redevelop an infill site identified in the city's Housing Element as underutilized with much-needed housing and neighborhood commercial uses.	Yes. This alternative would develop an infill site and provide much-needed housing and new neighborhood commercial uses.
Design and implement a walkable mixed-use community that provides a balance of affordable and market rate housing connected to community gathering areas and commercial amenities.	Yes. This alternative would provide active and passive recreational opportunities, pedestrian connections within the neighborhood to the various amenities, and a new local commercial center to serve the neighborhood. This alternative would encourage the use of non-motorized transportation. All private streets will contain sidewalks for safe pedestrian circulation. Other sidewalks and pathways will be provided for internal pedestrian circulation between the residential areas, commercial area, and recreational areas.



Table 6-5. Attainment of Project Objectives – Previously Proposed Plan Alternative

Project Objective	Does Previously Proposed Plan Alternative Meet Project Objectives?
Create a new mixed-use community consistent with the goals and policies of the <i>Carlsbad General Plan</i> and LCP.	<p>No. This alternative would not develop the project site consistent with the existing General Plan and zoning designation of the project parcels. This alternative would require the following approvals:</p> <ul style="list-style-type: none"> • General Plan Amendment to modify the boundaries to increase R-15 Residential and decrease the GC Commercial acreages • Zone Change to modify boundaries to increase residential density-multiple (RD-M) and decrease General Neighborhood Commercial (C-2) acreages • Specific Plan • LCP Amendment
Facilitate the establishment and operation of a community garden and vegetable stand to serve residents as well as visitors to the proposed project's commercial and gathering spaces.	<p>Yes. This alternative would facilitate the establishment and operation of a community garden and vegetable stand to serve residents and visitors to the project's commercial and gathering spaces.</p>
Provide pedestrian-scale, economically viable neighborhood commercial uses that serve proposed project residents and visitors while also paying homage to past uses and structures on the site.	<p>Yes. This alternative involves the construction of 16,000 square feet of commercial development on the commercial parcel. The new commercial uses will serve residents and visitors while also paying homage to past uses and structures on the property.</p>
Provide neighborhood recreational and open space amenities that will induce residents to minimize travel, resulting in a reduction of GHG emissions.	<p>Yes. This alternative will provide neighborhood recreational and open space amenities in compliance with Section 21.45.060 of the CMC.</p>
Design a community that encourages social interaction by integrating land use types and mobility within the community.	<p>Yes. This alternative would encourage social interaction by integrating land use types and mobility within the community. This alternative would provide active and passive recreational opportunities, pedestrian connections within the neighborhood to the various amenities, and a new local commercial center to serve the neighborhood.</p>
Utilize context sensitive grading techniques and project design features to ensure compatibility with adjacent residential land uses.	<p>No. Grading of the project site is subject to the city's Hillside Development Ordinance as project areas contain hillside conditions that are defined as slopes greater than 15 feet in height and 15 percent in slope. In order to maximize the privacy of the existing adjacent homes, the project proposes to significantly lower the higher topographical elevations located along the southern portion of the site to improve compatibility with the adjacent residences through a density bonus waiver request to exceed Hillside Development Ordinance grading volumes. This alternative does not include a density bonus request, and therefore could not request a waiver to exceed grading volumes for improved compatibility. While this alternative would comply with the grading volumes and other hillside requirements, it would not be able to significantly lower the higher topographical elevations along the southern portion of the site to ensure compatibility with adjacent residential land uses.</p>

6.3.5 Alternative Project Location

This alternative assumes development of the proposed project at an alternative location.

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the proposed project would be avoided or substantially lessened by constructing the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the proposed project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the proposed project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

With respect to the proposed project, no significant, unmitigable impacts have been identified. Since implementation of proposed mitigation will mitigate all significant environmental impacts to a less than significant level. Additionally, the proposed project would be consistent with applicable plans, including the *Carlsbad General Plan* and LCP.

Both the city, as the CEQA Lead Agency, and the Applicant have investigated the opportunity to develop a similar project in the general project area. Criteria for a suitable alternative location include a minimum site acreage of approximately 20 acres, accessibility, and availability of infrastructure.

The preliminary alternative site analysis determined that the site known as “Sunny Creek” would generally meet the basic criteria in terms of site acreage, available access, and infrastructure. The alternative location is not owned, or otherwise under the control of the applicant. The alternative site location is shown on Figure 6-1. The site comprises approximately 17.6 gross acres, is located adjacent to El Camino Real, and could access other utilities and infrastructure located within the El Camino Real right of way. The site is currently vacant, with the exception of a 20-space recreational vehicle (RV) storage located in the northeast corner of the site. There is currently no infrastructure on the site or readily available to serve the project site, including the extension of College Boulevard. Implementation of this proposed project will require removal of the recreational vehicles that are currently stored at this location and the asphalt associated with the RV storage facility.

Per the recently adopted *Carlsbad General Plan*, the 17.6 acre site is designated as follows:

- 9.6 acres of the site are designated R-15 residential at 12/du/ac, and
- 8 acres of the site are designated as L-Local Shopping Center, and
- 20 percent inclusionary affordable housing units.

Therefore, this site could theoretically be developed with 115 dwelling units at 12 du/ac and approximately 100,000 square feet of local commercial use. However, for analysis purposes it is assumed that the proposed project’s density bonus and mixed-use characteristics would be developed at this location. The acreages of the alternative site differ from the project site, so this alternative yields a different number of dwelling units. Based on gross acreage, the maximum number of dwelling units including a 35 percent density bonus for the residential acreage is 195 units, and for the commercial acreage (based on 25 percent of the acreage) is 81 units, for a total of 276 dwelling units. Of the 276 units, 41 would be developed as age-restricted inclusionary housing units and the remaining 235 units would be townhomes. Per the Carlsbad General Plan land use designation, the alternative location should include a local shopping center, which requires a minimum of 60,000 square feet of leasable area (per Table 2-4 of the Carlsbad General Plan Land Use Element).

Figure 6-1. Alternative Site Location



LEGEND

 Alternative Site Location



0 Feet 500

Aesthetics/Grading. The alternative site location is relatively flat, although grading would be required to develop the site in a uniform manner and provide for adequate access into and out of the site. It is anticipated that overall grading quantities required for implementation of this alternative would be less than at the proposed project site location. Further, unlike the proposed project, this alternative would not require a Hillside Development Permit, as no steep slopes, or other site characteristics meet the requirements for a Hillside Development Permit review. However, this alternative would not avoid or reduce a significant aesthetics impact, as no significant aesthetic impact has been identified associated with the proposed project.

Agriculture and Forestry Resources. The alternative site does not contain any agriculturally designated acreage. According to the Department of Conservation Important Farmland Mapping, the alternative location site is designated as “Other Land.” This alternative would not result in the conversion of Farmland of Statewide Importance and Unique Farmland to non-agricultural use. However, the conversion associated with the proposed project is not considered significant. Therefore, this alternative would not avoid or reduce a significant impact to agriculture. Additionally, because the project site is not identified as a coastal agriculture site, implementation of this alternative would also not involve the conversion of coastal agriculture, similar to the proposed project.

Air Quality. As with the proposed project, implementation of this alternative would result in an increase in air emissions. While less residential units would be constructed under this alternative, the development of approximately 60,000 square feet of commercial uses would result in an overall greater trip generation as compared to the proposed project (a net increase of approximately 1,388 ADT). Daily emissions of VOC would be higher than the proposed project and would exceed the SDAPCD significance thresholds during construction. Emissions of PM₁₀ and PM_{2.5} during construction would be higher than the proposed project’s but less than the SDAPCD significance threshold. Emissions of NO_x, CO, and SO₂ would be less than the proposed project during construction and less than the SDAPCD significance thresholds. During operation, the alternatives emissions of VOC, NO_x, CO, SO₂, PM₁₀, and PM_{2.5} are higher than the proposed projects but less than the SDAPCD significance thresholds. Therefore, because the alternative would exceed the VOC significance thresholds during construction there would be a potentially significant impact and would require mitigation.

Biological Resources. Similar to the proposed project, there is the potential for special-status animal species to occur within the alternative location site, although the potential is low because of the existing and historic uses and overall disturbed condition of the site. However, the site is located in proximity to Agua Hedionda Creek and would have the potential to result in indirect impacts to biological resources. This would primarily be in the form of potential noise impacts to avian species potentially nesting in the creek area during construction activities, as well as potential water quality impacts as a result of rainwater runoff. There are no sensitive biological resource habitats located on this site; however, this site is comprised of non-native grasslands, which are subject to in-lieu fee credits mitigation under the city’s HMP. No jurisdictional features would be impacted by development of the alternative location. Overall, the biological impacts associated with this alternative would be greater as compared to the proposed project and would be required to implement additional mitigation measures to reduce impacts to a less than significant level.

Cultural Resources. Although there are no existing structures on this site, implementation of this alternative could result in a similar impact to sub-surface cultural resources as the proposed project. This alternative would involve grading and redevelopment of the entire project site, thereby creating the potential to impact previously undiscovered archaeological resources encountered during grading

activities. As with the proposed project, implementation of Mitigation Measure CR-1 would reduce this impact to a less than significant level.

Compared to the proposed project, the alternative site is located on Quaternary alluvial materials. Quaternary alluvial materials are assigned a low paleontological resource sensitivity due to their relatively recent age, high-energy formation/deposition environment, and the fact that, with rare exceptions, significant fossil occurrences are unknown from alluvial deposits in San Diego County. Therefore, this alternative would avoid the potential impact on paleontological resources. Overall, the impact associated with cultural resources would be less than the proposed project.

Because the entirety of the site would be disturbed with the implementation of this alternative, there is the potential to impact tribal cultural resources or human remains during grading activities and implementation of Mitigation Measure CR-8 would be required to reduce this impact to a less than significant level.

Geology/Soils. Implementation of this alternative would likely involve similar geology/soils impacts as the proposed project. As with the proposed project, development at this location would likely not expose people or structures to adverse effects from a known fault-rupture hazard zone, and no impact would occur. The site could be exposed to similar geologic conditions as the proposed project site, such as the potential for liquefaction, expansive soils, or other geological constraints. Implementation of site-specific geotechnical mitigation measures would be required in order to reduce potential impacts to a less than significant level.

Greenhouse Gas Emissions/Climate Change. Implementation of this alternative would not avoid or reduce a potential GHG/climate change impact as no significant impact related to this environmental issue has been identified. GHG emissions would be generated during construction of this alternative. Additionally, operation of this alternative would generate GHG emissions through motor vehicle trips to and from the project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. This alternative would generate 4,188 MT CO₂e per year which is greater than the CAP screening threshold and the proposed project's GHG emissions.

With respect to the city's CAP, this alternative would emit greater than 900 MT CO₂e as the approximately 60,000 square feet of commercial development and 276 dwelling units would emit 4,188 MT CO₂e per year, which exceeds the thresholds noted in the CAP checklist question. This alternative would require a General Plan Amendment and Zone Change in order to implement the proposed uses, which means that this alternative is not consistent with the city's CAP. However, this alternative would have to implement the measures within the CAP checklist, and thus, this alternative would be consistent with the CAP. As such, this alternative would not have a significant climate change impact. A detailed evaluation and consistency analysis would be required to determine whether implementation of this alternative would maintain consistency with the city's CAP.

Hazards and Hazardous Materials. As with the proposed project, construction, fueling, and servicing of construction equipment may involve the use of hazardous materials and wastes, including the transport, storage, and disposal of commercially available hazardous materials such as gasoline, brake fluids, coolants, and paints. The handling of such materials would occur during short-term construction activities and would be subject to federal, state, and local health and safety requirements. Also, this alternative would also involve transport, use, and disposal of hazardous materials associated with routine commercial cleaning and maintenance for the restaurant, and retail buildings. However, the transport, use, and disposal of these materials would be handled in compliance with all applicable

laws and regulations and would not create a significant hazard to the public or the environment. Furthermore, these materials would not be used in quantities such that they would pose an environmental risk. The impact associated with routine use or disposal of the hazardous materials that may be used on the project site is considered less than significant. Because no structures are located on the alternative location site, this alternative would avoid the potential impact associated with ACMs and LBP. Overall, the impact associated with hazards and hazardous materials would be less than the proposed project.

Hydrology and Water Quality. Implementation of this alternative would result in similar impacts related to short-term water quality as the site would be graded and redeveloped in order to implement this alternative. This alternative would also result in similar operational impacts generated from residential and commercial/retail developments, streets, and parking lots. Similar to the proposed project, this alternative will be required to incorporate LID site design, source control, pollutant control, and hydromodification management BMPs into the proposed project design. Overall, the impact related to hydrology and water quality would be similar to the proposed project.

Land Use Planning. Similar to the proposed project, the alternative project site is located within the McClellan-Palomar Airport ALUCP Airport Overflight Notification Area. Compared to the proposed project, the alternative project site is located within Review Area 1 of the AIA and Safety Zone 6 (Traffic Pattern Zone). However, implementation of this alternative would result in a similar impact as the proposed project with respect to Land Use Planning. As with the proposed project, this alternative would trigger the notification requirement for new residential development constructed within the McClellan-Palomar Airport ALUCP Airport Overflight Notification Area and Review Area 1 of the AIA codified in Mitigation Measure LU-1.

Noise. Implementation of this alternative would result in a similar impact to noise associated with the proposed project. Mitigation Measures NOI-1 and NOI-2 would be necessary to ensure that on-site noise levels comply with city noise standards for private exterior living areas and city and State noise standards for habitable rooms. As with the proposed project, this alternative would involve the placement of HVAC systems that would have the potential to impact nearby sensitive noise receptors. As shown in Figure 6-1, existing residences are located to the east and south of the alternate project location, but separated from this alternative's site by College Boulevard and El Camino Real, respectively. Implementation of Mitigation Measure NOI-3 would nevertheless be required to ensure that noise from HVAC equipment is in compliance with the city's Noise Guideline Manual. As a result of the additional separation, this alternative would avoid the potential impacts to adjacent residences related to noise from rooftop deck activities. Because the traffic volumes associated with this alternative would be greater than the proposed project, the noise levels created by project-related traffic would be higher.

Population/Housing. Implementation of this alternative would not reduce, or avoid, any significant population and housing impact associated with the proposed project as no significant impact has been identified.

Public Services. Implementation of this alternative would not reduce, or avoid, any significant public services impact associated with the proposed project as no significant impact has been identified.

Transportation/Circulation. Implementation of this alternative would not avoid or reduce a transportation/circulation impact, as no significant transportation/circulation impact has been identified associated with the proposed project. This alternative would generate approximately 3,447 average daily vehicular trips, which is approximately 1,388 average daily trips greater than the proposed project trip generation. This alternative is calculated to result in 197 AM peak hour trips, which is approximately

19 AM peak hour trips greater than the proposed project. Approximately 309 PM peak hour trips would be generated under this alternative, which is approximately 136 more trips as compared to the proposed project.

Utilities and Service Systems. This alternative would not avoid or reduce any significant impact associated with utilities and service systems as the existing infrastructure has been designed and constructed assuming the buildout of the site per the *Carlsbad General Plan* designation.

Conclusion – Alternative Project Location. Under this alternative, impacts would be similar as compared to the proposed project, although it would generate more ADT, air emissions, and GHG emissions. Under this alternative, impacts on biological resources would be greater compared to the proposed project. This alternative would avoid the potential impact associated with hazardous materials (ACMs and LBP), paleontological resources, and noise (rooftop deck activities). This alternative would meet most of the basic objectives of the proposed project.

Table 6-6. Attainment of Project Objectives – Alternative Project Location

Project Objective	Does Alternative Project Location Meet Project Objectives?
Promote the construction of workforce housing near existing employment centers, infrastructure and public utilities.	Yes. This alternative would construct 276 residential dwelling units in close proximity to existing employment centers.
Provide a quality residential community of attached single-family homes attainably priced for young families and professionals.	Yes. This alternative would construct 235 attached single-family homes attainably priced for young families and professionals.
Provide low-income and very-low income age-restricted affordable housing to implement the <i>Carlsbad General Plan</i> and statewide housing goals.	No. In accordance with Chapter 21.85 of the CMC, this alternative will meet the requirements of the Inclusionary Housing Ordinance by providing approximately 41 age-restricted affordable housing units. However, the lesser number of inclusionary units would not be a sufficient number of units to create a viable long-term inclusionary housing project. Moreover, CMC Chapter 21.85 does not stipulate the level of affordability, and this alternative could provide zero units restricted to very-low income households compared to the project's four units restricted to very-low income households out of the 46 total affordable units.
Redevelop an infill site identified in the city's Housing Element as underutilized with much-needed housing and neighborhood commercial uses.	No. The alternative location is not currently developed, and therefore, the project at this location would not be characterized as redevelopment of an existing in-fill site.
Design and implement a walkable mixed-use community that provides a balance of affordable and market rate housing connected to community gathering areas and commercial amenities.	Yes. This alternative would provide active and passive recreational opportunities, pedestrian connections within the neighborhood to the various amenities, and a new local commercial center to serve the neighborhood. This alternative would encourage the use of non-motorized transportation. All private streets will contain sidewalks for safe pedestrian circulation. Other sidewalks and pathways will be provided for internal pedestrian circulation between the residential areas, commercial area, and recreational areas.
Create a new mixed-use community consistent with the goals and policies of the <i>Carlsbad General Plan</i> and LCP.	No. This alternative would require a General Plan Amendment in order to develop the site with similar project characteristics as the proposed project. The alternative site is not located within the Coastal Zone.

Table 6-6. Attainment of Project Objectives – Alternative Project Location

Project Objective	Does Alternative Project Location Meet Project Objectives?
Facilitate the establishment and operation of a community garden and vegetable stand to serve residents as well as visitors to the proposed project's commercial and gathering spaces.	Yes. This alternative could facilitate the establishment and operation of a community garden and vegetable stand on the project site.
Provide pedestrian-scale, economically viable neighborhood commercial uses that serve proposed project residents and visitors while also paying homage to past uses and structures on the site.	No. While this alternative involves the construction of 60,000 square feet of new commercial development on the project site, it would not be constructed on the project site and it would not, therefore, not pay homage to past uses and structures on the project site.
Provide neighborhood recreational and open space amenities that will induce residents to minimize travel, resulting in a reduction of GHG emissions.	Yes. This alternative will provide neighborhood recreational and open space amenities in compliance with Section 21.45.060 of the CMC.
Design a community that encourages social interaction by integrating land use types and mobility within the community.	Yes. This alternative would encourage social interaction by integrating land use types and mobility within the community. This alternative would provide active and passive recreational opportunities, pedestrian connections within the neighborhood to the various amenities, and a local commercial center to serve the neighborhood.
Utilize context sensitive grading techniques and project design features to ensure compatibility with adjacent residential land uses.	Yes. Although the alternative site is relatively flat, grading would be required to develop the site in a uniform manner. Project design features would be utilized to ensure compatibility with adjacent residential land uses.

6.4 Environmentally Superior Alternative

As shown in Table 6-7, the No Project/No Development Alternative is considered the environmentally superior alternative to the proposed project as it would avoid the following impacts identified for the proposed project: biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology and water quality, and land use. However, CEQA Guidelines Section 15126.6(e)(2) states that “if the environmentally-superior alternative is the No Project Alternative, the EIR shall also identify an environmentally-superior alternative among the other alternatives.” As shown in Table 6-7, the Alternative Project Location would be the environmentally superior alternative because this alternative would avoid the potential impact associated with hazardous materials (ACMs and LBP), paleontological resources, and noise (rooftop deck activities).



Table 6-7. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Aesthetics/Grading	NA	NA This alternative would avoid any grading or topographical alteration of the project site.	NA Grading would be required and similar topographical changes would be necessary as compared to the proposed project.	NA Grading would be required and similar topographical changes would be necessary as compared to the proposed project.	NA Grading would be required and similar topographical changes would be necessary as compared to the proposed project.	NA Grading would be required; however, this site does not contain steep slopes and less topographical change would be required to implement this alternative as compared to the proposed project.
Agriculture and Forestry Resources	NA	NA This alternative would not change the existing conditions of the site, although no agricultural resources are identified on the site.	NA This alternative would change the existing conditions of the site, although no agricultural resources are identified on the site.	NA This alternative would change the existing conditions of the site, although no agricultural resources are identified on the site.	NA This alternative would change the existing conditions of the site, although no agricultural resources are identified on the site.	NA This alternative would change the existing conditions of the site, although no agricultural resources are identified on the alternative location.

Table 6-7. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Air Quality	NA	<p>NA</p> <p>The existing baseline air emissions would remain the same as no new development would occur.</p>	<p>Greater</p> <p>Construction: Emissions would be greater for VOC and PM_{2.5} as compared to the project. Emissions would be less for NO_x, CO, SO₂, and PM₁₀ as compared to the project.</p> <p>Operation: Emissions of NO_x, SO₂, PM₁₀ and PM_{2.5} would be greater as compared to the project. Emissions of VOC and CO would be less as compared to the project.</p>	<p>Greater</p> <p>Construction: Emissions would be greater for VOC and PM_{2.5} as compared to the project. Emissions would be less for NO_x, CO, SO₂, and PM₁₀ as compared to the project.</p> <p>Operation: Emissions of all criteria pollutants would be less as compared to the proposed project.</p>	<p>Greater</p> <p>Construction: Emissions would be greater for VOC and PM_{2.5} as compared to the project. Emissions would be less for NO_x, CO, SO₂, and PM₁₀ as compared to the project.</p> <p>Operation: Emissions of NO_x, SO₂, and PM_{2.5} would be greater as compared to the project. Emissions of VOC, CO and PM_{2.5} would be less compared to the project.</p>	<p>Greater</p> <p>Construction: Emissions would be greater for VOC, PM₁₀, and PM_{2.5} as compared to the project. Emissions would be less for NO_x, CO, and SO₂ as compared to the project.</p> <p>Operation: Emissions of all criteria pollutants would be higher as compared to the proposed project.</p>



Table 6-7. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Biological Resources	LTSM	<p>Avoid</p> <p>Because no changes to this site would occur, this alternative would avoid potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed.</p>	<p>Similar</p> <p>This alternative would involve site disturbance and, similar to the project, would have potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed, as well as indirect effects such as light spillage into adjacent habitats.</p>	<p>Similar</p> <p>This alternative would involve site disturbance and, similar to the project, would have potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed, as well as indirect effects such as light spillage into adjacent habitats.</p>	<p>Similar</p> <p>This alternative would involve site disturbance and, similar to the project, would have potential indirect effects related to non-wetland WOUS/waters of the state and unvegetated streambed, as well as indirect effects such as light spillage into adjacent habitats.</p>	<p>Greater</p> <p>This alternative is located in a more biologically sensitive area, in proximity to a riparian habitat area with the potential to support sensitive species. Also, development at this location would convert non-native grasslands that have the potential to support raptor foraging.</p>

Table 6-7. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Cultural Resources	LTSM	Avoid Because no development would occur under this alternative, the potential impact associated with inadvertent discovery would be avoided.	Similar Because grading and development would occur, this alternative would result in a potential impact associated with inadvertent discovery.	Similar Because grading and development would occur, this alternative would result in a potential impact associated with inadvertent discovery.	Similar Because grading and development would occur, this alternative would result in a potential impact associated with inadvertent discovery.	Similar Because grading and development would occur, this alternative would result in a potential impact associated with inadvertent discovery. However, this alternative could avoid paleontological impacts associated with the project, as less grading and deep excavation into geologic formations would be required.
Geology/Soils	LTSM	Avoid Because no additional grading or development would occur, this alternative would avoid the potential geology/soils impact.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.

Table 6-7. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Greenhouse Gas Emissions/Climate Change	NA	NA The existing baseline GHG emissions would remain the same as no new development would occur.	Greater This alternative would emit 2,951 MTCO ₂ e, which is greater than the proposed project.	Greater This alternative would emit 2,489 MTCO ₂ e, which is greater than the proposed project.	Greater This alternative would emit 2,965 MTCO ₂ e, which is greater than the proposed project.	Greater This alternative would emit 4,188 MTCO ₂ e, which is greater than the proposed project.
Hazards and Hazardous Materials	LTSM	Avoid This alternative would not change the existing conditions of the site.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Less Because no structures are located on the project site, this alternative would avoid the potential impact associated with ACMs and LBP.
Hydrology and Water Quality	LTSM	Avoid This alternative would not change the existing conditions of the site.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.	Similar Because grading and development would occur, this alternative would result in a potential impact similar to the project.

Table 6-7. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Land Use Planning	LTSM	Avoid This alternative would not change the existing conditions of the site, therefore no mitigation would be required.	Similar Because new housing/residents would be located at the site under this alternative, the airport noise disclosure requirements would be required.	Similar Because new housing/residents would be located at the site under this alternative, the airport noise disclosure requirements would be required.	Similar Because new housing/residents would be located at the site under this alternative, the airport noise disclosure requirements would be required.	Similar Because new housing/residents would be located at the alternative site under this alternative, the airport noise disclosure requirements would be required.
Noise	LTSM	Avoid This alternative would not change the existing conditions of the site, so there would be no potential to impact existing adjacent sensitive receptors.	Similar This alternative would require similar noise mitigation to maintain interior standards and would have the potential to impact adjacent residences from rooftop noise.	Similar This alternative would require similar noise mitigation to maintain interior standards and would have the potential to impact adjacent residences from rooftop noise.	Similar This alternative would require similar noise mitigation to maintain interior standards and would have the potential to impact adjacent residences from rooftop noise.	Less This alternative would require similar noise mitigation to maintain interior standards; however, it would avoid the potential impact to adjacent residences from rooftop noise.



Table 6-7. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Population/Housing	NA	NA This alternative would not change the existing conditions of the site, so no new housing would be constructed	NA Because development would occur, this alternative would introduce new population/housing to the project site, although no significant impact would result.	NA Because development would occur, this alternative would introduce new population/housing to the project site, although no significant impact would result.	NA Because development would occur, this alternative would introduce new population/housing to the project site, although no significant impact would result.	NA Because development would occur, this alternative would introduce new population/housing to the project site, although no significant impact would result.
Public Services	NA	NA This alternative would not change the existing conditions of the site.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to public services.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to public services.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to public services.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to public services.

Table 6-7. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Transportation/Circulation	NA	<p>NA</p> <p>This alternative would not change the existing conditions of the site; therefore there would be no increase in trip generation at the project site.</p>	<p>Greater</p> <p>This alternative would generate 2,540 ADT, approximately 481 more ADT than the proposed project.</p>	<p>Greater</p> <p>This alternative would generate 2,317 ADT, approximately 258 more ADT than the proposed project.</p>	<p>Greater</p> <p>This alternative would generate 2,273 ADT, approximately 214 more ADT than the proposed project.</p>	<p>Greater</p> <p>This alternative would generate 3,447 ADT, approximately 1,388 more ADT than the proposed project.</p>

Table 6-7. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Existing General Plan (No Density Bonus/Maximum General Plan Residential Density and Commercial Intensity) Alternative	Reduced Project (No Density Bonus/GMCP General Plan Density) Alternative	Previously Proposed Plan Alternative	Alternative Project Location
Utilities and Service Systems	NA	NA This alternative would not change the existing conditions of the site; therefore, there would be no increase in demand for utilities and services systems.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to utilities and service systems.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to utilities and service systems.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to utilities and service systems.	NA Because development would occur, this alternative would introduce new population/housing and commercial uses to the project site, although no significant impact would result to utilities and service systems.

Notes:

NA=No significant impact identified associated with the project.

LTSM=Less than significant impact with mitigation.

Avoid=Impacts under this alternative avoided as compared to impacts for the proposed project.

Reduced=Impacts under this alternative reduced as compared to impacts for the proposed project.

Similar=Impacts under this alternative similar to impacts for the proposed project.

Greater=Impacts under this alternative greater to impacts for the proposed project.

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7 Analysis of Long-Term Effects

7.1 Cumulative Impacts

Section 15355 of the CEQA Guidelines define a cumulative impact as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” The CEQA Guidelines [Section 15130(a)(1)] further state that “an EIR should not discuss impacts which do not result in part from the project.”

Section 15130(a) of the CEQA Guidelines provides that “[A]n EIR shall discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable...” Cumulatively considerable, as defined in Section 15065(a)(3), “means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.”

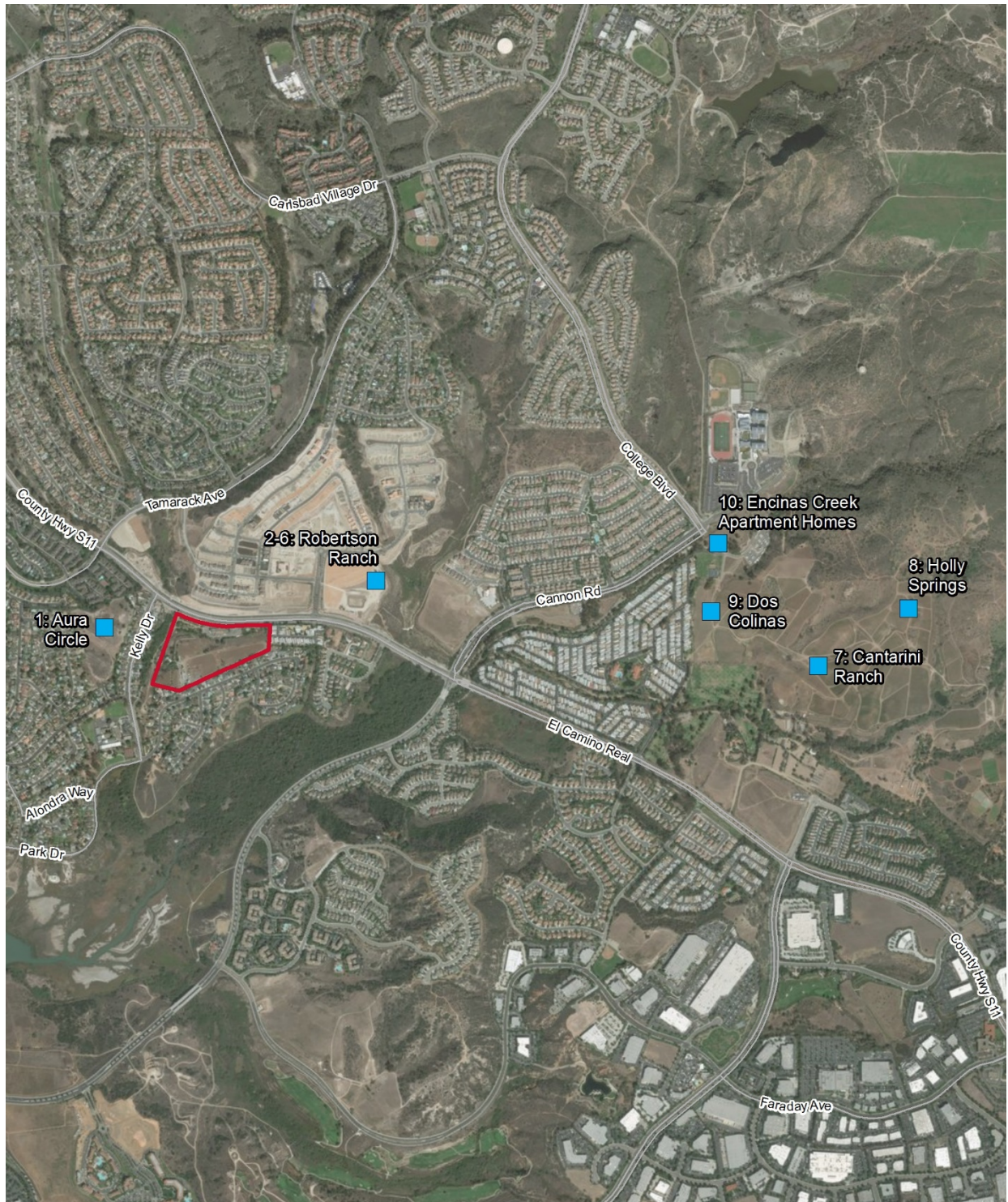
An adequate discussion of significant cumulative impacts requires either: (1) “a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency”; or (2) “a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.”

The CEQA Guidelines recognize that cumulative impacts may require mitigation, such as new rules and regulations that go beyond project-by-project measures. An EIR may also determine that a project’s contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project’s contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The Lead Agency must identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable (CEQA Guidelines Section 15130(a)(3)).



7.1.1 Cumulative Projects

This cumulative impact analysis utilizes the General Plan growth projections method, which assumes build-out of the Carlsbad General Plan. In addition, the cumulative effects discussion is based on a list of other projects that are reasonably foreseeable, planned, proposed, or under construction within the vicinity of the project site (Figure 7-1 and Table 7-1). The list of projects is based on applications on file with the city at time of release of the NOP.

Figure 7-1. Cumulative Projects



LEGEND

-  Project Site
-  Cumulative Project



0 Feet 2,000

Table 7-1. Cumulative Projects List

Project Number ¹	Project Name	Project Description
1	Aura Circle	Nine single family dwelling units located north of Aura Circle, west of Kelly Drive.
2	Robertson Ranch Planning Areas 1 and 2	Includes 27 multi-family dwelling units and 2.3 acres of RV storage area with access to El Camino Real and Tamarack Avenue.
3	Robertson Ranch Planning Areas 7 and 8	Includes a total of 396 multi-family dwelling units with access to El Camino Real and Tamarack Avenue. Approximately 30% of these units were constructed and occupied at the time of existing baseline counts. The balance of forecasted traffic was added to Near-Term conditions.
4	Robertson Ranch Planning Areas 9 & 10	Includes a total of 100 single family dwelling units with access to El Camino Real and Tamarack Avenue. Approximately 50% of these units were constructed and occupied at the time of existing baseline counts. The balance of forecasted traffic was added to Near-Term conditions.
5	Robertson Ranch Planning Area 11	Includes a total of 8.0 acres of community commercial development and 5.0 acres of community facilities with access to El Camino Real and Tamarack Avenue.
6	Robertson Ranch Planning Area 22	98 senior apartments located south/east of Cannon Road between El Camino Real and College Boulevard.
7	Cantarini Ranch	105 single family dwelling units and 80 multi-family dwelling units located on the easterly side of the future College Boulevard extension between El Camino Real and Cannon Road.
8	Holly Springs	43 single family dwelling units located southerly of Cannon Road and easterly of the future College Boulevard extension between El Camino Real and Cannon Road.
9	Dos Colinas	305 senior/assisted living units on two non-contiguous sites along the future College Boulevard extension between Cannon Road and El Camino Real.
10	Encinas Creek Apartment Homes	127 apartment located southeast of Cannon Road between El Camino Real and College Boulevard.

Notes:

¹ See Figure 7-1 for cumulative project location.

7.1.2 Geographic Scope for Cumulative Impact Analysis

The geographic scope of the cumulative impact analysis varies depending upon the environmental issue being analyzed. For the purposes of this EIR, the city limits of Carlsbad define the geographic scope for the analysis of cumulative land use and planning, public services and utilities, and aesthetics. The city's General Plan, GMP, and development policies address land use, public services and utilities, and aesthetic and grading issues.

The SDAB is used as the geographic scope for the analysis of cumulative air quality and GHG emissions impacts due to the existence of RAQS Plans and requirements set forth by the SDAPCD, which apply to all cumulative projects within the SDAB.

The Agua Hedionda Creek and Agua Hedionda Lagoon watershed defines the geographic scope related to hydrology and water quality as cumulative development in this watershed could impact the drainage and water quality of the watershed and downstream waterbodies.

Figure 5.14-1 in Section 5.14, Transportation/Circulation, of this EIR identifies the roadways that were analyzed in the Traffic Impact Analysis (Appendix J of this EIR).

7.1.3 Aesthetics/Grading

Cumulative development would result in the continued alteration of the visual setting and topography of the area. Local planning policies and development standards, including specific policies related to visual resources and grading, would reduce potential aesthetic impacts of individual developments. No significant project-level grading and aesthetic impacts have been identified for the proposed project or the cumulative projects identified in the area. Cumulatively, since individual development proposals would conform to the goals, policies, and recommendations of the *Carlsbad General Plan*, the cumulative impact is considered less than significant. Individual development proposals would be assessed by the city to determine consistency with the applicable development regulations and design guidelines. No significant cumulative impact to aesthetics of the area would occur.

7.1.4 Agriculture and Forestry Resources

As identified in Section 5.2, Agriculture and Forestry Resources, of this EIR, the project site contains Farmland of Statewide Importance and Unique Farmland. Implementation of the proposed project would convert approximately 7.11 acres of Farmland of Statewide Importance and 1.19 acres of land designated as Unique Farmland to non-agricultural use. However, despite a history of agriculture use, the project site does not qualify as prime agricultural land required to be preserved due to soil conditions or other commercial agricultural operations. The project site is not identified as a coastal agriculture site, and therefore, conversion of the project site to urban uses does not require mitigation.

The existing zoning designation for the project site is C-2 and RD-M. The project site is not located on or adjacent to land zoned for agricultural use. Therefore, the proposed project would not conflict with existing zoning for agricultural use and no impact would occur.

No cumulatively significant impact to agricultural resources would result from implementation of the proposed project.

7.1.5 Air Quality

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. As described in Section 5.3, Air Quality, of this EIR, the project would result in a less than significant impact for short-term construction and long-term operations.

The SDAB is a nonattainment area for O₃ under the NAAQS and CAAQS. The poor air quality in the SDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOCs and NO_x for O₃) potentially contribute to poor air quality. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, a project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the basin to ensure the SDAB continues to make progress toward NAAQS- and CAAQS-attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents upon which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O₃ and a state nonattainment area for O₃, PM₁₀, and PM_{2.5}. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the basin. As discussed in Section 5.3, Air Quality, of this EIR, the project would not exceed significance thresholds during construction or operation. As such, the project would result in less than significant impacts to air quality.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the proposed project would be consistent with the existing zoning and land use designation for the site and would not result in significant regional growth that is not accounted for within the RAQS. As a result, the project would not result in a cumulatively considerable contribution to regional O₃ concentrations or other criteria pollutant emissions. Cumulative impacts would be less than significant during operation.

7.1.6 Biological Resources

The increase in urbanization of currently vacant land would impact existing natural habitats and biological resources. The city's HMP anticipates future development within the city, and addresses biological impacts on a cumulative level by implementing a habitat plan that would ensure preservation of important biological resources and maintenance of habitat connectivity within the city and to other areas outside of the city. Development within the city must comply with the provisions of the General Plan and HMP, providing substantial open space in the most biological sensitive areas

to ensure the preservation of a habitat system that would ensure the continued viability and protection of sensitive biological resources.

With respect to the proposed project, the proposed project would result in a direct impact to common upland habitat types (Carlsbad HMP Habitat Group F). However, these are not sensitive natural communities. Impacts to non-sensitive upland habitat types require purchase of in-lieu fee credits under the HMP as detailed in Mitigation Measure BIO-2.

Potential significant indirect impacts could occur if stormwater runoff is not controlled at the construction site, and sediment, toxics, and/or other material is inadvertently carried into sensitive habitat within the adjacent off-site Kelly Creek. Further, if the construction work areas are not properly fenced, inadvertent encroachment into adjacent sensitive riparian habitat associated with Kelly Creek could occur. Compliance with existing regulations for water quality, stormwater management, and implementation of Mitigation Measure BIO-3 would reduce potentially significant impacts on sensitive natural communities to a level less than significant.

With regards to jurisdictional waters, the project site supports a low-quality drainage ditch (Figure 5.4-1) that could qualify as non-wetland WOUS subject to USACE jurisdiction pursuant to CWA Section 404, non-wetland waters of the state subject to RWQCB jurisdiction pursuant to CWA Section 401, and unvegetated streambed subject to CDFW jurisdiction pursuant to California FGC Sections 1600 et seq. Implementation of Mitigation Measure BIO-4 would ensure the appropriate regulatory permits are obtained and mitigation obligations are fulfilled in accordance with existing regulations pertaining to non-wetland WOUS/waters of the state and unvegetated streambed. Implementation of Mitigation Measure BIO-4 would reduce the potentially significant impact to jurisdictional waters to a level less than significant.

Implementation of the proposed project in conjunction with other planned projects within the city would result in cumulative impacts to biological resources. Continued development within the city would extend urban land uses into vacant areas characterized by natural vegetation communities and used by wildlife. Such impacts were evaluated during the approval of the Carlsbad HMP. Measures including preserve design and management were incorporated into the HMP to offset cumulative impacts to biological resources. The proposed mitigation measures identified in Section 5.4, Biological Resources, of this EIR, are designed to be in compliance with the HMP and, therefore, would reduce cumulative impacts to below a level of significance.

7.1.7 Cultural Resources

Cumulative development is expected to impact existing cultural resources in the region. The cumulative total of all of the related project development in the city identified in Table 7-1 above creates the potential for additional impacts to historical, archaeological, and paleontological resources. The project's compliance with the mitigation measures identified in Section 5.5, Cultural Resources, of this EIR would ensure that the project-specific impact to significant cultural resources is mitigated to a level less than significant. On a broader scope, archaeological and cultural resources are protected through Section 15064.5 of the CEQA Guidelines, as well as other federal and state laws, and local ordinances, including the city's Cultural Resource Guidelines. Cumulative development within the region is subject to review under CEQA and compliance with federal, state, and local regulations protecting cultural resources. Impacts to cultural resources as a result of development in the region would be reduced to a level less than significant through implementation of mitigation measures on a project-by-project basis. Therefore, the proposed project would not result in cumulative impacts to cultural resources.

7.1.8 Geology and Soils

Cumulative development would result in an increase in population and development that would potentially be exposed to hazardous geological conditions. Geologic and soils conditions are typically site specific and can be addressed through appropriate engineering practices. Cumulative impacts with regards to geologic resources would be considered significant if the proposed project would be impacted by geologic hazards(s) and if the impact could combine with off-site geologic hazards to be cumulatively considerable. However, there are no unique geological characteristics on the project site that would pose this type of hazard. Geologic and soils conditions on the project site would result in a significant, but mitigable geology/soils impact. The proposed project's incremental effects are not cumulatively considerable. Geologic conditions in the Southern California region would essentially be the same regardless of the amount of development and the cumulative geologic impact is considered less than significant. No significant cumulative impact to geology/soils would occur.

7.1.9 Greenhouse Gas Emissions and Climate Change

The proposed project would incrementally increase greenhouse gas emissions. The estimated annual project-generated emissions in 2023 from area, energy, mobile, solid waste, and water/wastewater sources and amortized project construction emissions would be approximately 2,334 MTCO_{2e} per year, which exceeds the city's screening threshold of 900 MTCO_{2e} per year. However, the proposed project is consistent with the land use assumptions used in the CAP and the General Plan land use and zoning designations of the project site. Furthermore, the proposed project would include applicable CAP measures, such as solar PV systems, LED lighting, and EV charging capable parking spaces and charging stations, to minimize GHG emissions in line with the city's CAP. The impact is considered less than significant. Therefore, no significant GHG impacts from the project are expected, and the project would be classified in compliance with the intent of AB 32. The cumulative impact is considered less than significant.

As discussed in detail in Section 5.7, Greenhouse Gas Emissions, of this EIR, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. The project is consistent with the overall goals of the city's General Plan directed at reducing GHG emissions. Further, as detailed above, the project is consistent with the city's CAP.

7.1.10 Hazards and Hazardous Materials

The proposed project and the related projects would require emergency planning for natural or manmade disasters that may occur. Evacuation and emergency routes can be blocked by proposed roadway projects and construction activities that extend into the street. As required, compliance with standards related to vehicular access would ensure access to individual parcels is maintained at all times, detours are established, and required temporary traffic control plans are implemented. Impacts would be temporary and insignificant.

All projects are required to comply with state and federal regulations for hazardous materials use. Impacts related to hazards and hazardous materials from other related projects would be determined by site-specific hazardous studies. Phase 1 Environmental Site Assessments are typically required and each project would address any potential hazardous materials on-site on a case-by-case basis. Enforcement of state, county, and local hazardous material regulations would reduce significant public health hazards to a level less than significant. Thus, implementation of the proposed project would not result in a significant cumulative hazards and hazardous materials impact.

7.1.11 Hydrology and Water Quality

Development of cumulative projects has the potential to increase the amount of erosion due to the alteration of drainage patterns and increased amounts of impervious surfaces. The hydrology analysis and storm water management requirements for the project site take into consideration the contribution of increased flows and water quality conditions as a result of cumulative development within the watershed in which the project site is located. Implementation of Mitigation Measures WQ-1 and WQ-2, as well as proposed project drainage control and hydromodification features identified in Section 5.9, Hydrology and Water Quality, of this EIR would reduce impacts to a level less than significant. Cumulative projects would be subject to the same local, state, and federal regulations with respect to hydrology and water quality, and appropriate best management practices would be implemented to ensure impacts are reduced to less than significant. Also, improvements identified in the city's Master Drainage Plan would adequately control hydrology within the watershed. Regional pollution control facilities, including the proposed on-site water quality facilities would ensure that there are no significant cumulative impacts associated with water quality/hydrology.

7.1.12 Land Use Planning

The other projects being considered for cumulative impacts would not conflict with the Carlsbad General Plan. Achievement of orderly growth would be dependent upon development in the future occurring in a manner consistent with the city's General Plan, GMP, and development regulations. Because the city has adopted these plans, and will continue to implement these plans, which will, in turn, avoid significant land use impacts, no cumulative impact would occur. The proposed development has been determined to be compatible with the existing surrounding land uses as well as approved and anticipated land uses. In addition, the analysis in Section 5.10 Land Use Planning, of this EIR has determined that no significant project impact would occur to existing land use plans and policies, including the Carlsbad General Plan and specific regulatory and environmental documents adopted by the city. The project-level land use impact is considered less than significant. Therefore, the project would not contribute to a significant cumulative impact to land use. No significant cumulative impact to land use would occur.

7.1.13 Noise

The proposed project would result in temporary noise increases during the project construction period. Temporary noise increases at adjacent existing and future noise-sensitive land uses from construction activities would be considered significant without implementation and/or adherence to the city's standard conditions related to construction noise. The city's Municipal Code exempts noise associated with construction activity as long as it occurs within the permitted hours. Construction would be limited to the hours between 7:00 a.m. and 6:00 p.m. on weekdays and between 8:00 a.m. and 6:00 p.m. on Saturdays in accordance with the city's Municipal Code. No construction activity is allowed on Sundays and federal holidays. In addition to compliance with the city's Municipal Code, the following standard condition measures would be implemented to reduce potential construction noise impacts on nearby sensitive receptors:

- The project contractor shall, to the extent feasible, schedule construction activities to avoid the simultaneous operation of construction equipment so as to minimize noise levels resulting from operating several pieces of high noise level emitting equipment.

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers. Enforcement shall be accomplished by random field inspections by applicant personnel during construction activities, to the satisfaction of the City of Carlsbad Engineering Services Department.
- Construction noise reduction methods such as shutting off idling equipment, construction of a temporary noise barrier, maximizing the distance between construction equipment staging areas and adjacent residences, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive receptors.
- Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners to contact the job superintendent if necessary. In the event the City of Carlsbad receives a complaint, appropriate corrective actions shall be implemented and a report of the action provided to the reporting party.

Compliance with the construction hours specified in the city's Municipal Code in combination with other equipment-related standard condition measures identified above would result in less than significant noise impacts during project construction. Other cumulative projects will also be required to adhere to the construction hours specified in the city's Municipal Code, as well as standard conditions related to construction noise.

Roadway noise levels would generally increase as development occurs through the city's projected buildout. Cumulative buildout would increase the traffic-generated noise on surrounding roadways and other types of noise typically associated with urban uses would also increase. Implementation of adopted noise regulations, such as the city's Noise Element and noise standards, would avoid a cumulative noise impact.

As discussed in Section 5.11, Noise, of this EIR, the proposed project would add additional traffic along adjacent roadways, in particular El Camino Real. Noise levels were modeled at representative noise-sensitive receivers Figure 5.11-1 (Section 5.11, Noise, of this EIR). The noise model results are summarized in Table 5.11-7. The city does not have a specific noise criterion for evaluating off-site noise impacts to residences or noise-sensitive areas from project-related traffic. For the purposes of the noise analysis, such impacts are considered significant when they cause an increase of 5 dB from existing noise levels or cause an exceedance of the 60 dBA CNEL noise threshold. An increase or decrease in noise level of at least 5 dB is required before any noticeable change in community response would be expected (Appendix I of this EIR).

As shown in Table 5.11-7 (Section 5.11, Noise, of this EIR), the maximum noise level increase would be 0 dB (when rounded to whole numbers). There would be no measurable or audible change, and the impact is, therefore, less than significant. At noise measurement location ST5, the predicted noise levels would decrease with the proposed project. This is because of the acoustical shielding provided from traffic noise at this location by the intervening project structures to the west. Therefore, the proposed project's contribution to a significant cumulative noise impact would not be significant, as the project-specific noise impact to offsite land uses is not significant.

7.1.14 Population/Housing

As identified in Table 7-1, there are several projects that are in the planning process or will start construction in the city. The cumulative effects of the proposed project on 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) would not be substantial. The LFMP process includes restrictions on the timing and phasing of development in relation to the provision of community services and infrastructure. The city's GMP Policies, which are enforced in the LFMPs, would continue to monitor growth in the area to maintain adequate levels of service for the people living in Carlsbad. With the incorporation of the LFMP process and the city's GMP policies, development cannot proceed until adequate infrastructure is financially guaranteed to meet demand. Therefore, cumulative impacts are determined to be less than significant.

7.1.15 Public Services

Cumulative development would increase the population of the city, resulting in an increased demand on public services. However, the city has established the requirements for preparation of, and amendments to, the LFMP as part of the city's Growth Management Program in order to anticipate and prepare for this future growth and any potential strain on services. Conformance with and periodic review of the LFMP for each respective zone would ensure the adequate provision of public services in accordance with the city's GMP. Therefore, no significant cumulative impact to public services would occur.

7.1.16 Transportation/Circulation

The proposed project's traffic impacts and cumulative impacts are evaluated in Section 5.14, Transportation/Circulation, of this EIR. The traffic analysis (Appendix J of this EIR) used two distinct analyses required for both the *Carlsbad Growth Management Plan* as well as CEQA.

To present a near-term traffic condition, traffic volumes for approved/pending projects (Table 7-1) were developed and added to the existing traffic volume. Two cumulative scenarios were analyzed in the Transportation Impact Analysis (Appendix J of this EIR) and discussed in Section 5.14, Transportation/Circulation, of this EIR:

- Existing plus Cumulative (both with, and without the extension of College Boulevard)
- Existing plus Cumulative plus Project Conditions (both with, and without the extension of College Boulevard)

As discussed in Section 5.14, Transportation/Circulation, of this EIR, the proposed project would not result in a significant impact to intersections and roadway segments under both cumulative scenarios. Therefore, no significant cumulative traffic impacts would occur.

7.1.17 Utilities and Service Systems

Cumulative development would increase the population of the city, resulting in an increased demand on utilities. However, the city has established the requirements for preparation of, and amendments to, the LFMP as part of the city's Growth Management Program in order to anticipate and prepare for this future growth and any potential strain on services. Conformance with and periodic review of the

LFMP for each respective zone would ensure the adequate provision of public services in accordance with the city's GMP. Therefore, no significant cumulative impact to utilities would occur.

7.2 Growth-Inducing Impacts

Discussion of growth-inducing impacts is required by the State CEQA Guidelines Section 15126.2(d). Growth inducement refers to the “ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.” This typically includes projects that will remove obstacles to population growth, for example, as a result of the provision of public services to undeveloped areas. It must not be assumed that growth in any area is necessarily beneficial or detrimental in its effect on the environment, or that it has an insignificant effect. Each project must be evaluated on its own merit.

The 2013-2021 Housing Element was reviewed to determine if the proposed project would exceed the dwelling unit limits established by the GMP and Proposition E. The project applicant is requesting a withdrawal of 161 dwelling units from the city's Excess Dwelling Unit Bank. As of June 30, 2018, the Excess Dwelling Unit Bank has 2,346 potential additional dwelling units available to allocate citywide. With regards to the Quadrant Caps, as of June 30, 2018, there are 704 potential additional dwelling units available for the Northwest Quadrant. The proposed project's 296 residential units would not exceed the Northwest Quadrant's remaining future unit limits established by the Growth Management Plan and Proposition E.

The LFMP process includes restrictions on the timing and phasing of development in relation to the provision of community services and infrastructure. The city's GMP Policies, which are enforced in the LFMPs, would continue to monitor growth in the area to maintain adequate levels of service for the people living in Carlsbad. With the incorporation of the LFMP process and the city's Growth Management Plan policies, development cannot proceed until adequate infrastructure is financially guaranteed to meet demand. Implementation of the proposed project would not result in the alteration of growth patterns within the city from that anticipated in the adopted General Plan.

The jobs and housing created by the proposed project are anticipated to serve the existing population within the city limits. The project would provide temporary construction jobs. The short-term nature of the construction jobs is not anticipated to lead to significant long-term population growth in the region.

7.3 Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines requires an EIR to address any significant irreversible environmental changes that may occur as a result of project implementation. Development of the proposed project would result in the consumption of nonrenewable energy resources, which would have a significant irreversible effect on such resources. The proposed project would result in the development of the site for residential uses. The proposed project represents a continued commitment of land to urban uses, which intensifies land use on the project site. Once developed, reverting to a less urban use is highly unlikely. Development of the project site would constrain future land use options.

Several irreversible commitments of limited resources would result from implementation of the proposed project. The resources include but are not limited to the following: lumber and other forest products; sand, gravel, and concrete; asphalt; petrochemical construction materials; steel, copper, and other metals; and water consumption.

7.4 Energy Conservation and Appendix F Considerations

CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see PRC Section 21100(b)(3)).

As discussed in Section 5.7, Greenhouse Gas Emissions, of this EIR, all buildings would comply with the CAP measure requiring compliance with the energy code. The proposed project would be designed to be consistent with Title 24, Part 6 Energy Budget for the Standard Design Building. Therefore, the project does not include any components that would be considered unnecessary, wasteful, or inefficient in terms of energy consumption. In addition, energy infrastructure needed to support the project (e.g., natural gas, electricity) is available and the project would not require a substantial new source of energy. The proposed project would also involve the use of natural gas associated with building heating, cooking, and water heating; however, the project would utilize Energy Star or equivalent on all appliances. Project operations would also involve the use of gasoline associated with vehicle travel. While this represents an increase in the use of fossil fuels, the use of such fuels is not considered to be in a manner that is unnecessary or wasteful and, therefore, this is considered a less than significant impact.

7.5 Unavoidable Significant Environmental Impacts

Analysis of environmental impacts caused by the proposed project has been performed, and is contained in Section 5, Environmental Analysis, of the EIR. Based on this analysis, no unavoidable significant environmental impacts are identified with the implementation of the proposed project. All impacts are mitigated to a less than significant level.

7.6 Effects Found Not To Be Significant

7.6.1 Mineral Resources

The city is devoid of non-renewable energy resources. Mineral resources within the city are no longer being utilized and extracted as exploitable natural resources. Therefore, no mineral resource impacts would occur as a result of the project.

7.6.2 Recreation

The proposed project would provide its own common and private amenities. As shown on Figure 3-12 in Section 3, Project Description, the project includes nine common area open space areas on the project site. The project would provide 14,179 square feet of passive open space and 35,965 square feet of active open space.

The proposed project does not include public recreational facilities or require the construction or expansion of public recreational facilities, which might have an adverse physical effect on the environment. While the proposed project would result in an additional demand for recreation facilities, other than private recreational amenities provided within the residential development, no other construction of recreational facilities is proposed. The project, in and of itself would not create the need to construct additional recreational facilities elsewhere, where in turn, would have an adverse physical impact on the environment.

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