ONE | METRO | WEST

Public Review Draft EIR | February 2020

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DRAFT ENVIRONMENTAL IMPACT REPORT

One Metro West

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DRAFT EIR AND APPENDICES ON CD

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Acronyms and Abbreviations

± .....Plus or Minus
°C.....Degrees Celsius
°F .....Degrees Fahrenheit
2014 WMP .....2014 Water Master Plan
2016 AQMP.....2016 Air Quality Management Plan
2016 RTP/SCS.....2016-2040 Regional Transportation Plan/Sustainable Communities Strategies
AADT .....Annual Average Daily Trips
AADTT .....Annual Average Daily Truck Traffic
AAQS.....Ambient Air Quality Standards
AB.....Assembly Bill
AC .....Acre
ACHP .....Advisory Council on Historic Preservation
ACM.....Asbestos-containing Material
ADA.....Americans with Disabilities Act
ADT.....Average Daily Trips
AELUP.....Airport Environs Land Use Plan
AERMOD.....American Meteorological Society/Environmental Protection Agency Regulatory Model Version 18081
AF.....Acre-feet
AFY.....Acre-feet per Year
ALUC.....Airport Land Use Commission
AQMP .....Air Quality Management Plan
AR4 .....2007 Intergovernmental Panel on Climate Change Fourth Assessment Report
Basin Plan.....Water Quality Control Plan for the Santa Ana River Basin (Region 8)
BEE.....Building Energy and Efficiency
bgs .....Below Ground Surface
BMP .....Best Management Practice
CAA .....Clean Air Act
CAAQS.....California Ambient Air Quality Standards
CAFE .....Corporate Average Fuel Economy
Cal/OSHA .....California Occupational Safety and Health Administration
CalARP .....California Accidental Release Prevention Program
CalEEMod .....California Emissions Estimator Model Version 2016.3
CalEPA .....California Environmental Protection Agency
CALGreen.....California Green Building Standards Code
Caltrans.....California Department of Transportation
CARB.....California Air Resources Board
CBC.....California Building Code
CCR.....California Code of Regulations
CEC.....California Energy Commission
CEQA .....California Environmental Quality Act
CERCLA .....Comprehensive Environmental Response, Compensation and Liability Act
CFC .....California Fire Code
CFR .....Code of Federal Regulations
cfs .....Cubic Feet per Second

Acronyms and Abbreviations

CGS.....California Geological Survey
CH_4.....Methane
CHRIS .....California Historical Resources Information System
CIPP.....Cured-in-place Pipe
City .....City of Costa Mesa
CMFD.....Costa Mesa Fire & Rescue Department
CMP .....Congestion Management Plan
CMPD.....Costa Mesa Police Department
CMSD .....Costa Mesa Sanitary District
CNEL .....Community Noise Equivalent Level
CO .....Carbon Monoxide
CO_2.....Carbon Dioxide
COMM .....Commercial and Sportfishing
CPTED.....Crime Prevention Through Environmental Design
CPUC.....California Public Utilities Commission
CREC.....Controlled Recognized Environmental Condition
CRHR .....California Register of Historical Resources
CSHS.....California State Highway System
CTC.....California Transportation
CTP .....Clean Truck Program
CUPA.....Certified Unified Program Agency
CWA .....Clean Water Act
DAMP .....Drainage Area Management Plan
dB .....Decibel
dBA .....A-weighted Decibel
DNL.....Day-Night Sound Level
DOF.....California Department of Finance
DPF.....Diesel Particulate Filter
DPM.....Diesel Particulate Matter
Draft EIR.....Draft Environmental Impact Report
DRRP.....Diesel Risk Reduction Plan
DSOD.....California Division of Safety of Dams
DTSC.....Department of Toxic Substances Control
DU.....Dwelling Unit
DWR.....Department of Water Resources
EB.....Eastbound
EC.....Electrical Conductivity
EO.....Executive Order
EOP .....Emergency Operations Plan
EPA.....Environmental Protection Agency
EPCRA.....Emergency Planning and Community Right-to-Know Act of 1986
EST .....Estuarine Habitat
EV .....Electric Vehicle
FAA.....Federal Aviation Administration
FAR.....Federal Aviation Regulation

Acronyms and Abbreviations

FAR.....Floor Area Ratio
FCAA.....Federal Clean Air Act
FEMA.....Federal Emergency Management Agency
FIRM.....Flood Insurance Rate Map
ft .....Feet
FTA.....Federal Transit Administration
g/L.....Grams Per Liter
General Plan .....City of Costa Mesa General Plan
GHG.....Greenhouse Gases
GMP.....Groundwater Management Plan
gpd .....Gallons per Day
GWh.....Gigawatt-hour
GWP .....Global Warming Potential
GWRS.....Groundwater Replenishment System
H_2S .....Hydrogen Sulfide
HAZWOPER.....Hazardous Waste Operations and Emergency Response
HCD.....California Department of Housing and Community Development
HCM .....Highway Capacity Manual
HCS.....Highway Capacity Software
HFC.....Hydrofluorocarbons
HHDT .....Heavy Duty Trucks
HI .....Hazard Index
HPSR .....Historic Property Survey Report
HREC .....Historical Recognized Environmental Condition
HSP .....Health and Safety Plan
HVAC.....Heating, Ventilation, and Air Conditioning
Hz .....Hertz
I-405 Freeway.....Interstate 405 Freeway; San Diego Freeway
IBC .....International Building Code
ICU.....Intersection Capacity Utilization
IIPP .....Injury and Illness Prevention Plan
in/sec .....Inches per Second
IPCC .....Intergovernmental Panel on Climate Change
IRWD .....Irvine Ranch Water District
IRWMP.....Integrated Regional Water Management Plan
JWA.....John Wayne Airport
kBTU .....Kilo British Thermal Units
kWh .....Kilowatt-hour
L.....Left
LBP .....Lead-based Paint
lbs/day .....Pounds Per Day
L_{dn}.....Day-Night Sound Level
LEPC .....Local Emergency Planning Committees
L_{eq} .....Equivalent Continuous Noise Level
LID.....Low Impact Development

Acronyms and Abbreviations

L_n .....Statistical Sound Level
LOS .....Level of Service
LST .....Localized Significance Threshold
MAR.....Marine Habitat
Master Plan .....One Metro West Master Plan
MCL .....Maximum Contaminant Level
MEI .....Maximum Exposed Individual
MEP .....Maximum Extent Practicable
MERV.....Minimum Efficiency Reporting Value
Metropolitan .....Metropolitan Water District of Southern California
mg/L.....Milligrams per Liter
mg/m^3.....Milligrams per cubic meter
mgd .....Million Gallons per Day
MGFP .....Management Guidelines for the Use of Fertilizers and Pesticides
MICR .....Maximum Individual Cancer Risk
MLD.....Most Likely Descendent
MMCF/day .....Million Cubic Feet per Day
MMT .....Million Metric Tons
MND.....Mitigated Negative Declaration
MP .....Industrial Park
mph .....Miles Per Hour
MPO.....Metropolitan Planning Organization
MS4 .....Municipal Separate Storm Sewer System
$MTCO_2e$ .....Metric Tons of Carbon Dioxide Equivalent
MUN.....Municipal and Domestic Supply
Municipal Code .....Costa Mesa Municipal Code
MW.....Megawatt
MWD .....Mesa Water District
MWDOC.....Municipal Water District of Orange County
MWELO .....Model Water Efficient Landscape Ordinance
MWS .....Modular Wetlands System
N_2O .....Nitrous Oxide
NA.....Not Available
NAAQS .....National Ambient Air Quality Standards
NAHC .....Native American Heritage Commission
NB .....Northbound
NCHRP .....National Cooperative Highway Research Program
ND .....Negative Declaration
NDIR.....Non-Dispersive Infrared Photometry
NDSP.....National Dam Safety Program
NEHRP .....National Earthquake Hazard Reduction Program
NFIP .....National Flood Insurance Program
NHPA.....National Historic Preservation Act
NMUSD .....Newport-Mesa Unified School District
NO .....Nitrogen Oxide

Acronyms and Abbreviations

NO_2.....Nitrogen Dioxide
NOI.....Notice of Intent
NOP.....Notice of Preparation
NO_x.....Nitrogen Oxides
NPDES.....National Pollutant Discharge Elimination System
NRHP.....National Register of Historic Places
O&M.....Operation and Maintenance
O_3.....Ozone
OBD-II.....On-Board Diagnostic
OC Basin.....Orange County Groundwater Basin
OCFA.....Orange County Fire Authority
OCFCD.....Orange County Flood Control District
OCHCA.....Orange County Health Care Agency
OCPL.....Orange County Public Library
OCSD.....Orange County Sanitation District
OCTA.....Orange County Transportation Authority
OCTAM.....Orange County Transportation Analysis Model
OCWD.....Orange County Water District
OEHHA.....California Office of Environmental Health Hazard Assessment
OES.....Office of Emergency Services
OPR.....Governor's Office of Planning and Research
OSHA.....Occupational Safety and Health Administration
OWSC.....One-Way Stop Controlled
Pb.....Lead
pc/mi/ln.....Passenger Cars per Mile per Lane
PCBs.....Polychlorinated Biphenyls
PCE.....Passenger Car Equivalent
PDR-HD.....Planned Development Residential – High Density
PeMS.....Performance Measurement System
PFC.....Perfluorocarbons
Phase I ESA.....Phase I Environmental Site Assessment
PM_{10}.....Respirable Particulate Matter
$PM_{2.5}$.....Fine Particulate Matter
PMP.....Project Monitoring Plan
POTW.....Publicly Owned Treatment Works
ppb.....Parts Per Billion
ppd.....Pounds per Day
ppm.....Parts Per Million
PPP.....Plans, Policies, Programs
PPV.....Peak Particle Velocity
PRIMP.....Paleontological Resources Impact Mitigation Program
PUC.....Public Utilities Code
R.....Right
RARE.....Rare, Threatened or Endangered Species
RCP.....Reinforced Concrete Pipe

Acronyms and Abbreviations

RCRA.....Resource Conservation and Recovery Act
REC.....Recognized Environmental Condition
REC1.....Water Contact Recreation
REC2.....Non-contact Water Recreation
RFG-2.....Reformulated Gasoline
RHNA.....Regional Housing Needs Assessment
RMS.....Root Mean Square
ROG.....Reactive Organic Gas
RPS.....Renewables Portfolio Standard
RRP.....Renovation, Repair and Painting
RTPA.....Regional Transportation Planning Agency
RWQCB.....Regional Water Quality Control Board
SAFP.....State Alternative Fuels Plan
SARA.....Superfund Amendments and Reauthorization Act
SB.....Senate Bill
SB.....Southbound
SCA.....Standard Conditions of Approval
SCAG.....Southern California Association of Governments
SCAQMD.....South Coast Air Quality Management District
SCCIC.....South Central Coastal Information Center
SCE.....Southern California Edison
SCS.....Sustainable Communities Strategies
SF_6.....Sulfur Hexafluoride
SFHA.....Special Flood Hazard Area
SGMA.....Sustainable Groundwater Management Act
SHMA.....Seismic Hazard Mapping Act
SHPO.....State Historic Preservation Officer
SIP.....State Implementation Plan
SMP.....Soils Management Plan
SO_2.....Sulfur Dioxide
SoCAB.....South Coast Air Basin
SoCalGas.....Southern California Gas Company
SOCO.....South Coast Collection
Specific Plan.....One Metro West Specific Plan
SR.....State Route
SR-55.....State Route 55; Costa Mesa Freeway
SR-73.....State Route 73; San Joaquin Hills Transportation Corridor
SRA.....Source Receptor Area
SWPPP.....Storm Water Pollution Prevention Plan
SWRCB.....State Water Resources Control Board
T.....Through
TAC.....Toxic Air Contaminant
T-BACT.....Toxics Best Available Control Technology
TCR.....Tribal Cultural Resources
TDS.....Total Dissolved Solids

Acronyms and Abbreviations

TERPS.....Terminal En Route Procedures
TMDL.....Total Maximum Daily Load
TSCA .....Toxic Substances Control Act
TSD.....Treatment, Storage, and Disposal
TSF.....Thousand Square Feet
TTCP .....Traditional Tribal Cultural Places
TWSC.....Two-Way Stop Controlled
U.S. .....United States
UBC.....Uniform Building Code
USGS .....U.S. Geological Survey
UST .....Underground Storage Tank
UWMP.....Urban Water Management Plan
VMT.....Vehicle Miles Traveled
VOC.....Volatile Organic Compound
WARM.....Warm Freshwater Habitat
WB.....Westbound
WILD.....Wildlife Habitat
WQMP.....Water Quality Management Plan
WSA .....Water Supply Assessment
Zoning Ordinance .....Costa Mesa Zoning Ordinance
$\mu g/m^3$.....Micrograms per cubic meter

Acronyms and Abbreviations

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Chapter 1.0 Executive Summary

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1. Executive Summary

1.1 INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) addresses the environmental effects associated with the implementation of the proposed One Metro West (the project). The California Environmental Quality Act (CEQA) requires that local government agencies consider the environmental consequences before taking action on projects over which they have discretionary approval authority. The intent of this EIR is to analyze the potential environmental consequences of the project, inform the public, and support informed decisions by the City of Costa Mesa and other local and State governmental agency decision makers. Issues considered potentially significant are addressed in Chapter 5, *Environmental Analysis*; issues determined to have no impact and how the determinations were made are provided in Chapter 8, *Impacts Found Not to Be Significant*.

This Draft EIR has been prepared pursuant to the requirements of CEQA and the City of Costa Mesa's CEQA procedures. The City of Costa Mesa, as the lead agency, has reviewed and revised all submitted drafts, technical studies, and reports as necessary to reflect its own independent judgment, including reliance on City technical personnel from other departments and review of all technical subconsultant reports.

Data for this Draft EIR are derived from field observations; discussions with affected agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature; and specialized environmental assessments (air quality and greenhouse gas emissions, cultural resources, geological resources, hazards and hazardous materials, hydrology and water quality, noise, transportation, and water supply.

1.2 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared pursuant to CEQA to assess the environmental effects associated with implementation of the proposed project, as well as anticipated future discretionary actions and approvals. CEQA established six main objectives for an EIR:

1. Disclose to decision makers and the public the significant environmental effects of proposed activities.
2. Identify ways to avoid or reduce environmental damage.
3. Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
4. Disclose to the public reasons for agency approval of projects with significant environmental effects.
5. Foster interagency coordination in the review of projects.
6. Enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation in CEQA and the CEQA Guidelines; it is intended to provide an objective, factually supported analysis, and full disclosure of the environmental consequences of a proposed project with the potential to result in significant, adverse environmental impacts.

An EIR is one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Before approving a proposed project, the lead agency must consider the information in the EIR; determine whether the EIR was prepared in accordance with CEQA and the CEQA Guidelines; determine that it reflects the independent judgment of the lead agency; adopt findings concerning the project's significant environmental impacts and alternatives; and adopt a statement of overriding considerations if significant impacts cannot be avoided.

1.2.1 EIR Format

Chapter 1. Executive Summary: Summarizes the background and description of the proposed project, the format of this EIR, project alternatives, any critical issues remaining to be resolved, and the potential environmental impacts and mitigation measures identified for the project.

Chapter 2. Introduction: Describes the purpose of this EIR, background on the project, the notice of preparation, the use of incorporation by reference, and Final EIR certification.

Chapter 3. Project Description: A detailed description of the project, including its objectives, its area and location, approvals anticipated to be required as part of the project, necessary environmental clearances, and the intended uses of this EIR.

Chapter 4. Environmental Setting: A description of the physical environmental conditions in the vicinity of the project as they existed at the time the notice of preparation was published, from local and regional perspectives. These provide the baseline physical conditions from which the lead agency determines the significance of the project's environmental impacts.

Chapter 5. Environmental Analysis: Each environmental topic is analyzed in a separate section that discusses: the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the project; the existing environmental setting; the potential adverse and beneficial effects of the project; the level of impact significance before mitigation; the mitigation measures for the proposed project; the level of significance after mitigation is incorporated; and the potential cumulative impacts of the proposed project and other existing, approved, and proposed development in the area.

Chapter 6. Significant Unavoidable Adverse Impacts: Describes the significant unavoidable adverse impacts of the proposed project.

Chapter 7. Alternatives to the Proposed Project: Describes the alternatives and compares their impacts to the impacts of the proposed project. Alternatives include the No Project Alternative and a Reduced Intensity Alternative.

Chapter 8. Impacts Found Not to Be Significant: Briefly describes the potential impacts of the project that were determined not to be significant by the Initial Study and were therefore not discussed in detail in this EIR.

Chapter 9. Significant Irreversible Changes Due to the Proposed Project: Describes the significant irreversible environmental changes associated with the project.

Chapter 10. Growth-Inducing Impacts of the Project: Describes the ways in which the proposed project would cause increases in employment or population that could result in new physical environmental impacts.

Chapter 11. Organizations and Persons Consulted: Lists the people who prepared this EIR as well as the people and organizations that were contacted during the preparation of this EIR.

Chapter 12. Bibliography: The technical reports and other sources used to prepare this EIR.

Appendices: The appendices for this document (in PDF format on a CD attached to the table of contents) comprise these supporting documents:

1.2.2 Type and Purpose of this Draft EIR

This Draft EIR has been prepared as a "Project EIR," defined by Section 15161 of the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3). This type of EIR examines the environmental impacts of a specific development project and should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation.

1.3 PROJECT LOCATION

The 15.23-acre project site is located at 1683 Sunflower Avenue in the City of Costa Mesa, Orange County. The project site is bound by Sunflower Avenue to the north, the South Coast Collection (SOCO) retail center to the east, the Interstate 405 Freeway (I-405 Freeway; San Diego Freeway) to the south, and industrial and logistics uses to the west. The project site is currently occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dekra-Lite Industries, Inc. within an approximate 345,000-square foot one-story industrial building.

1.4 PROJECT SUMMARY

The proposed project is a mixed-use development that consists of residential, specialty retail, creative office, and open space uses. The project is proposed to include up to 1,057 multi-family rental residential dwelling units, 25,000 square feet of commercial (creative office) space, 6,000 square feet of specialty retail, and 1.5-acres of open space. All existing buildings, structures, parking areas, drive aisles, and hardscape/landscape improvements are proposed to be demolished. The project would include off-site improvements to Sunflower Avenue and a bicycle trail connection from the project site west to the existing Santa Ana River Trail. Upgrades to Sunflower Avenue would include placing the existing Southern California Edison (SCE) 66-

kilovolt utility lines underground along the project site and upgrading the sidewalk and public landscape areas with a new sidewalk and bicycle trail to improve pedestrian and bicycle access to the regional Santa Ana River Trail system. The proposed project requires approval of a General Plan Amendment, Zone Change, Specific Plan, Master Plan, Development Agreement, Tentative Tract Map, Tree Removal Permit, Public Art Plan, and other ministerial permits. If approved by City Council, the project is also subject to Measure Y.

1.5 AREAS OF CONTROVERSY

In accordance with Section 15123(b)(2) of the CEQA Guidelines, the EIR summary must identify areas of controversy known to the lead agency, including issues raised by agencies and the public. Areas of controversy known to the City at this time include transportation impacts.

Prior to preparation of the EIR, a Notice of Preparation (NOP) was distributed for comment, which extended from May 23, 2019 to June 21, 2019. Additionally, a public scoping meeting was conducted by the City on June 5, 2019 at the Costa Mesa Senior Center, 695 West 19th Street, Costa Mesa, California 92627. NOP comment letters received during the review period are summarized in Chapter 2, *Introduction* (see Section 2.3, *Scoping Process*, and Appendix B, *NOP Comments*).

The City invites any and all input and comments from interested agencies, persons, and organizations regarding the Notice of Availability (NOA) for the One Metro West Public Review Draft EIR. Commenters must submit any comments in response to the NOA beginning February 7, 2020 and ending at 5:00 p.m. on March 23, 2020.

1.6 SUMMARY OF ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE AFTER MITIGATION

The City has determined that the project would result in no impact to the following topical areas as substantiated in Chapter 8, *Impacts Found Not to Be Significant*:

- Agriculture and Forestry Resources;
- Biological Resources;
- Mineral Resources; and
- Wildfire.

The City determined the following 16 environmental factors required additional analysis, nine of which result in potentially significant impacts if the proposed project is implemented. This listing also includes the identified applicable regulatory requirements, such as plans, policies, programs (PPP), based on Federal, State, or local laws currently in place, or standard conditions of approval (SCA) applied to the project, if applicable.

AESTHETICS

PPP AES-1 Prior to issuance of the first building permit for the proposed project, the owner/developer would be required to submit a Design Plan for the Building "A" parking elevation (facade) along the I-405 Freeway for review by the Planning Division and approval by the City's

Cultural Arts Committee. All architectural treatments including public art installations must comply with the regulations in the One Metro West Specific Plan. As such, architectural treatments would exclude the use of moving, flashing, or otherwise visually distracting elements or materials that are highly reflective or generate noise.

PPP AES-2 The City of Costa Mesa would verify the proposed project is developed pursuant to the development standards and design guidelines included in the One Metro West Specific Plan.

SCA AE-1 The City of Costa Mesa would be required to verify the proposed project is architecturally compatible (pertaining to building materials, style, colors, etc.) with the existing surrounding development and consistent with the One Metro West Specific Plan during the plan check review process.

SCA AE-2 No modification(s) of the approved building elevations including, but not limited to, changes that increase the building height, removal of building articulation, or a change of the finish material(s), would be made during construction without prior Planning Division written approval. Failure to obtain prior Planning Division approval of the modification could result in requirement of the applicant to (re)process the modification through a discretionary review process, or modify the construction drawings to reflect the approved plans.

SCA AE-3 No exterior roof access ladders, roof drain scuppers, or roof drain downspouts would be permitted. This condition relates to visually prominent features of scuppers or downspouts that not only detract from the architecture but may be spilling water from overhead without an integrated gutter system which would typically channel the rainwater from the scupper/downspout to the ground. An integrated downspout/gutter system painted to match the building would comply with the condition. This condition would be completed under the direction of the Planning Division.

SCA AE-4 Permits would be required for all signs according to the provisions of the Costa Mesa Sign Ordinance. Freestanding signs would be subject to review and approval by the Planning Division/Development Services Director to ensure compatibility in terms of size, height, and location with the proposed/existing development and existing freestanding signs in the project vicinity.

SCA AE-5 Prior to the issuance of the first building permit, the Applicant shall submit a Lighting Plan and Photometric Study for approval by the Development Services Director or designee. The Lighting Plan and Photometric Study shall demonstrate compliance with the following:

- The intensity and location of lights on buildings shall be limited to minimize nighttime light and glare to off-site residents.
- All site lighting fixtures shall be provided with a flat glass lens. Photometric calculations shall indicate the effect of the flat glass lens fixture efficiency.

- Lighting design and layout shall limit light spillage to no more than 0.5 foot-candles at the property line of off-site residential properties. The level of on-site lighting shall be as determined necessary for safety and security purposes. Light standards shall be located and oriented in such a way as to minimize light spillage onto surrounding properties. Light shall be shielded, and pointed downward or otherwise directed away from off-site properties.

- The intensity of the parking deck lighting and lighting associated with any public art installation visible from off-site residential properties shall be reduced to low levels from 9:00 p.m. until dawn each day to minimize lighting impacts to off-site residential properties.

- Illuminated signs visible from off-site residential properties shall be completely shut off at 10:00 p.m., seven days a week.

Refer to the following sections for a discussion of applicable PPPs:

- *Hydrology and Water Quality*, PPP HYD-1, SCA HYD-1, and SCA HYD-2; and
- *Noise*, PPP N-2.

AIR QUALITY

PPP AIR-1 New buildings are required to achieve the current California Building Energy and Efficiency (BEE) Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11).

PPP AIR-2 Construction activities are required to be conducted in compliance with 13 California Code of Regulations (CCR) Section 2499, which requires nonessential idling of construction equipment is restricted to five minutes or less.

PPP AIR-3 Construction activities are required to comply with applicable South Coast Air Quality Management District (SCAQMD) rules and regulations, including, but not limited, to the following:

- Rule 402, *Nuisance*, which states a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property;" and
- Rule 1113, *Architectural Coatings*, which limits the volatile organic compound content of architectural coatings.

PPP AIR-4 Construction activities are required to recycle/reuse at least 50 percent of the construction material including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard, and to use green building materials such as those materials that are rapidly renewable or resource efficient, and recycled and manufactured in an environmentally friendly way, for at least ten percent of the project, as specified in the California Department of Resources Recycling and Recovery Sustainable Green Building Program.

SCA PLNG-14 Demolition permits for existing structure(s) shall be obtained and all work and inspections completed prior to final building inspections. Applicant is notified that written notice to the South Coast Air Quality Management District (SCAQMD) may be required ten (10) days prior to demolition.

SCA AQMD-3 Applicant shall contact the South Coast Air Quality Management District (SCAQMD) at (800) 288-7664 for potential additional conditions of development or for additional permits required by the district.

SCA HYD-1 South Coast Air Quality Management District (SCAQMD) Rule 403 would be adhered to, ensuring the cleanup of construction-related dirt on approach routes to the project site. Rule 403 prohibits the release of fugitive dust emissions from any active operation, open storage pile, or disturbed surface area beyond the property line of the emission sources. Particulate matter deposits on public roadways are also prohibited.

SCA HYD-2 Adequate watering techniques would be employed to partially mitigate the impact of construction-generated dust particulates. Portions of the project site that are undergoing earth moving operations would be watered such that a crust is formed on the ground surface and then watered again at the end of the day.

SCA HYD-3 Grading operations would be suspended during first and second stage ozone episodes or when winds exceed 25 miles per hour.

CULTURAL RESOURCES

PPP CUL-1 The proposed project is required to comply with California Public Resources Code 5097.9-5097.991 (which protects Native American historical and cultural resources, and sacred sites) and Health and Safety Code Section 7050.5 (pertaining to the discovery or recognition of any human remains).

ENERGY

PPP EN-1 New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and the California Green Building Standards Code (CALGreen; Title 24, Part 11). The 2016 Building and Energy Efficiency Standards became effective starting January 1, 2017, and the 2019 Building and Energy Efficiency Standards will become effective January 1, 2020. The Building Energy and Efficiency Standards and CALGreen are

updated tri-annually with a goal to achieve zero net energy for residential buildings by 2020 and non-residential buildings by 2030.

PPP EN-2 To reduce water demands and energy use associated with landscape water use, the proposed project is required to implement a landscaping palette emphasizing drought-tolerant plants and water-efficient irrigation techniques consistent with provisions of the City's Model Water Efficient Landscape Ordinance (MWELO; Ordinance No. 16-03) requirements.

PPP EN-3 To reduce water demands and associated energy use associated with indoor water use, the proposed project is required to provide plumbing fixtures that meet the United States Environmental Protection Agency (EPA) Certified WaterSense, 2019 California Green Building Standards Code (CALGreen) standards or equivalent, faucets, toilets, and other plumbing fixtures. The water conservation strategy is required to demonstrate a minimum 20 percent reduction in indoor water usage compared to baseline water demand (total expected water demand without implementation of the water conservation strategy).

PPP EN-4 The construction contractor is required to recycle/reuse at least 50 percent of the construction material including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard, and to use "green building materials" such as those materials that are rapidly renewable or resource-efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the project, as specified in the California Department of Resources Recycling and Recovery (CalRecycle) Sustainable (Green) Building Program.

PPP EN-5 Per the 2019 California Green Building Standards Code (CALGreen) standards, construction of the proposed project is required to include installation of electric vehicle (EV) charging stations and designated EV parking at non-residential and residential buildings. Preferential parking for low-emitting, fuel-efficient, and carpool/car share/van vehicles is required in all parking areas.

PPP EN-6 Construction contractors are required to minimize non-essential idling of construction equipment during construction in accordance with California Code of Regulations (CCR) Section 2449, Title 13, Article 4.8, Chapter 9.

GEOLOGY AND SOILS

PPP GEO-1 As required by Municipal Code Section 5-1, the project is required to comply with the 2016 (or most recent) Edition of the California Building Code (CBC) to preclude significant adverse effects associated with seismic hazards.

PPP GEO-2 As required by Municipal Code Section 5-1, the project is required to comply with the recommendations outlined in the *Preliminary Geotechnical Investigation, Proposed Multi-Family Residential Development 1683 Sunflower Avenue, Costa Mesa, California*, prepared by Geocon West Inc. on July 24, 2019 (refer to Appendix E).

Refer to *Hydrology and Water Quality*, for a discussion of PPP HYD-1 through PPP HYD-4.

GREENHOUSE GAS EMISSIONS

Refer to *Energy*, for a discussion of PPP EN-1 through PPP EN-5.

HAZARDS AND HAZARDOUS MATERIALS

PPP HAZ-1 Any project-related hazardous materials and hazardous wastes will be transported to and/or from the project site in compliance with any applicable State and Federal requirements, including the U.S. Department of Transportation regulations listed in the Code of Federal Regulations (CFR) (Title 49, Hazardous Materials Transportation Act); California Department of Transportation standards; and the California Occupational Safety and Health Administration (Cal/OSHA) standards.

PPP HAZ-2 Any project-related hazardous waste generation, transportation, treatment, storage, and disposal will be conducted in compliance with Subtitle C of the Resource Conservation and Recovery Act (RCRA) (Code of Federal Regulations [CFR] Title 40, Part 263), including the management of nonhazardous solid wastes. The proposed project will be designed and constructed in accordance with the regulations of the Orange County Environmental Health Department, which serves as the designated Certified Unified Program Agency (CUPA) and implements State and Federal regulations for the following programs: (1) Hazardous Waste Generator Program, (2) Hazardous Materials Release Response Plans and Inventory Program, (3) California Accidental Release Prevention, (4) Aboveground Storage Tank Program, and (5) Underground Storage Tank Program.

PPP HAZ-3 A comprehensive asbestos and lead-based paint (LBP) survey shall be conducted at the project site. Any project-related demolition activities that have the potential to expose construction workers and/or the public to asbestos-containing material (ACM) or LBP will be conducted in accordance with applicable regulations, including, but not limited to:

- South Coast Air Quality Management District's (SCAQMD's) Rule 1403
- California Health and Safety Code (Section 39650 et seq.)
- The California Occupational Safety and Health Administration (Cal/OSHA) Administration Regulations (California Code of Regulations [CCR] Title 8, Section 1529 [Asbestos] and Section 1532.1 [Lead])
- Code of Federal Regulations (CFR) (Title 40, Part 61 [asbestos]; Title 40, Part 763 [asbestos]; Title 40, Part 745 [lead]; and Title 29, Part 1926 [asbestos and lead])
- U.S. Environmental Protection Agency's (EPA's) Lead Renovation, Repair and Painting Program Rules and Residential Lead-Based Paint Disclosure Program
- Sections 402, 404, and 403, as well as Title IV of the Toxic Substances Control Act (TSCA)

PPP HAZ-4 The removal of other hazardous materials, such as polychlorinated biphenyls (PCBs), mercury-containing light ballast, and mold, will be completed in accordance with applicable regulations pursuant to 40 Code of Federal Regulations (CFR) 761 (PCBs), 40 CFR 273 (mercury-containing light ballast), and 29 CFR 1926 (molds) by workers with HAZWOPER training, as outlined in 29 CFR 1910.120 and 8 California Code of Regulations (CCR) 5192.

PPP HAZ-5 Federal Aviation Regulation (FAR) Part 77 establishes standards for determining whether objects constructed near airports would be considered obstructions in navigable airspace, sets forth notice requirements of certain types of proposed construction or alterations, and provides for aeronautical studies to determine the potential impacts of a structure on the flight of aircraft through navigable airspace. FAR Part 77 requires notification to the Federal Aviation Administration (FAA) for any project that would be more than 200 feet in height above the ground level pursuant to FAR Part 77 Section 77.13. As the project is located within the FAR Part 77 Notification Area for John Wayne Airport, the project would be subject to FAR Part 77 requirements.

SCA HAZ-1 Prior to removal of underground tanks, the applicant shall contact the Orange County Environmental Health Care Agency for application procedures and guidelines. Issuance of building permits will be held until a clearance report is issued by the health agency and is submitted to planning staff.

HYDROLOGY AND WATER QUALITY

PPP HYD-1 National Pollutant Discharge Elimination System (NPDES): General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities, NPDES No. CAS000002. Compliance requires filing a Notice of Intent (NOI), a Risk Assessment, a Site Map, a Storm Water Pollution Prevention Plan (SWPPP) with associated best management practices (BMPs), an annual fee, and a signed certification statement.

PPP HYD-2 Orange County MS4 Permit (R8-2009-0030, as amended by Order No. R8-2010-0062, or most recent): The MS4 Permit requires new development and redevelopment projects to:

- Control contaminants into storm drain systems;
- Educate the public about stormwater impacts;
- Detect and eliminate illicit discharges;
- Control runoff from construction sites; and
- Implement best management practices (BMPs) and site-specific runoff controls and treatments for new development and redevelopment.

PPP HYD-3 As required by Municipal Code Section 8-32, *Control of Urban Runoff*, the proposed project would be undertaken in accordance with the County's *Drainage Area Management Plan* (DAMP) and any conditions and requirements established by the Development Services

Department and the Public Services Department, which are reasonably related to the reduction or elimination of pollutants in stormwater runoff from the project site. Prior to the issuance of a grading permit, building permit, or non-residential plumbing permit for any new development, or significant redevelopment, the Development Services Department and Public Services Department would review the project plans and impose terms, conditions, and requirements on the project in accordance with Municipal Code Section 8-32.

PPP HYD-4 As required by Municipal Code Section 13-107, *Irrigation Requirements*, irrigation systems would be designed to reduce overspray, runoff, and low-head drainage onto streets, sidewalks, windows, walls, and fences. Automatic systems for watering cycles would be scheduled to maximize ground infiltration rates and further minimize runoff.

PPP HYD-5 Project dewatering would comply with the Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (Order No. 2003-0003-DWQ) or the De Minimis Waste Discharge Requirements for the Santa Ana Region (Order No. R8-2015-0004, NPDES No. CAG998001), as required.

PPP HYD-6 As required by Municipal Code Section 8-32, the project is required to comply with the recommendations outlined in the *Preliminary Water Quality Management Plan* (Preliminary WQMP), prepared by Urban Resource Corporation on April 30, 2019. A final WQMP must be submitted and approved by the City prior to the issuance of a grading permit. The WQMP includes site design measures, source control measures, and treatment measures that minimize the potential for erosion and siltation. In addition, the WQMP must include an operations and maintenance (O&M) plan and maintenance agreement for review and approval by the City to ensure the treatment measures installed at the site are maintained for perpetuity.

Refer to *Air Quality*, for a discussion of SCA HYD-1 through SCA HYD-3.

LAND USE AND PLANNING

PPP LU-1 The proposed project would be designed and constructed as a Planned Development Residential-High Density (PDR-HD) in accordance with the applicable provisions of Municipal Code Section 13-20, *Zoning Districts*. As such, future development would be subject to the proposed One Metro West Specific Plan and Master Plan regulations. Where these documents are silent, the Municipal Code would prevail.

NOISE

PPP N-1 Residential stationary noise sources are required to comply with Municipal Code Section 13-280, *Exterior Noise Standard*:

- 50 dBA from 11:00 pm to 7:00 am; and
- 55 dBA from 7:00 am to 11:00 pm.

1. Executive Summary

PPP N-2 Construction activities are required to comply with the following standards detailed in Municipal Code Section 13-279, *Exceptions for Construction*:

- Allowed from 7:00 a.m. to 7:00 p.m. on Mondays through Fridays;
- Allowed from 9:00 a.m. to 6:00 p.m. on Saturdays; and
- Prohibited on Sundays, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

SCA D-1 Commercial or multi-family residential zones may be considered. Preferred locations are close to a commercial area(s) with shops, restaurants, and other commercial activities and services such as banks and medical facilities. There should be easy access to bus service. Off-site pedestrian circulation should provide sidewalks that are convenient and safe to use. The project site should be free of odors, excessive noise, and aesthetically unattractive surroundings.

SCA CONST HRS-2 All noise-generating construction activities shall be limited to 7 a.m. to 7 p.m. Monday through Friday and 9 a.m. to 6 p.m. Saturday. Noise-generating construction activities shall be prohibited on Sunday and the following Federal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

SCA RES 40 If present and/or projected exterior noise exceeds 60 Community Noise Equivalent Level (CNEL), California Noise Insulation Standards, Title 25, California Code of Regulations require a maximum interior noise level of 45 CNEL for residential structures. If required interior noise levels are achieved by requiring that windows be closed, the design for the structure must also specify the means that will be employed to provide ventilation, and cooling if necessary, to provide a habitable interior environment.

SCA C/I 42 Prior to issuance of the first building permits, a detailed acoustical study based on architectural plans shall be prepared by a qualified acoustical consultant and submitted to Planning Division for review and approval. The study shall demonstrate compliance with noise standards as required by the Project Specific Plan and the City's General Plan. The acoustical study shall be prepared in compliance with the provisions of the California Administrative Code, Title 25, Chapter 1, Subchapter 1, Article 4. The applicant shall submit two copies of the study with the application for building permits. The acoustical analysis shall evaluate existing and projected noise levels, noise attenuation measures to be applied, and the noise insulation effectiveness of the proposed construction. The applicant shall demonstrate compliance with the recommendations of the acoustic analysis report prior to the issuance of building permits. The person preparing the report shall, under the direction of a person experienced in the field of acoustical engineering, perform an inspection of the project prior to or at the time of the framing inspection to certify that construction techniques comply with recommendations contained within the acoustical analysis. Upon completion of the subject structures, field tests may be required under the provisions of Title 25.

POPULATION AND HOUSING

There are no plans, policies, programs (PPP), or standard conditions of approval (SCA) applicable to the project related to population and housing impacts.

PUBLIC SERVICES AND RECREATION

Fire Protection and Emergency Services

PPP FS-1 The proposed project is required to comply with the 2019 edition of the California Fire Code.

PPP FS-2 The proposed project is required to comply with Municipal Code Title 5, *Buildings and Structures*, and all adopted State construction codes.

PPP FS-3 The project is required to pay development impact fees established based on the Costa Mesa Fire Protection System Fee Study and as required in the Development Agreement.

SCA FIRE-25 The on-site hydrant(s) shall be attached to the underground mains of the fire sprinkler system or installed to the standards of the Mesa Water District and be dedicated along with repair easements to the Mesa Water District.

SCA FIRE-26 The applicant shall participate in the upgrading of fire protection facilities according to the formula developed by the Costa Mesa Fire & Rescue Department. The contribution shall be made prior to the issuance of building permits or as agreed in the Development Agreement.

SCA FIRE-7 The applicant shall provide Class A fire hydrant(s) according to the Costa Mesa Fire & Rescue Department reviewed and approved Fire Master Plan for the project.

SCA FIRE-8 Any required hydrants shall be installed and operable prior to the initiation of combustible construction.

SCA FIRE-9 Water improvement plans shall be approved by the Costa Mesa Fire & Rescue Department.

SCA FIRE-10 Water mains shall be of adequate size to deliver 1,000 gallons per minute simultaneously from the closest hydrants to any and all points of the development with a minimum residual pressure of 20 pounds per square inch.

SCA FIRE-13 Fire apparatus access roadways identified in the approved Fire Master Plan for the project shall be maintained with access to all fire hydrants from the time that the hydrants are placed into service. Special consideration shall be given to maintaining the integrity of such roadways during periods of inclement weather.

SCA FIRE-14 The applicant shall provide fire extinguishers with a minimum rating of 2A to be located within 75 feet of travel distance from all areas. Extinguishers may be of a type rated 2A, 10BC as these extinguishers are suitable for all types of fires and are less expensive.

SCA FIRE-15 The applicant shall provide approved smoke detectors to be installed in accordance with the latest edition of the Uniform Fire Code.

SCA FIRE-16 The applicant shall provide an approved automatic extinguishing system for all cooking surfaces, hoods, and ducts.

SCA FIRE-17 The applicant shall provide an automatic fire sprinkler system according to National Fire Protection Association requirements.

Police Protection Services

PPP PD-1 The project is required to pay development impact fees established based on the Citywide Fee Study and as required in the Development Agreement.

SCA PD-49 Outside security lighting shall be provided under the direction and upon the recommendation of the City of Costa Mesa Development Services Department and/or the Police Department.

SCA PD-58 The following list of security measures would be provided:

1. Cameras installed in all common areas and hallways.
2. Cameras monitored 24 hours per day, seven days a week, at a centralized location by the applicant's property management team.
3. In the afternoon and through the night (such as from 2:00 p.m. to 4:00 a.m.), a third party courtesy patrol walks and patrols the property.

School Services

PPP SS-1 The project applicant shall pay developer fees per square foot for residential and commercial construction pursuant to the Newport-Mesa Unified School District (NMUSD) requirements.

Library Services

No existing regulatory requirements, such as plans, policies, programs, or standard conditions of approval related to library services apply to the proposed project.

Park Facilities and Recreation Services

PPP PS-1 The proposed project shall comply with Government Code Section 66477 (Quimby Act) and Measure Z as required by the Development Agreement, related to payment of an open space and public park impact fee.

TRANSPORTATION

PPP T-1 Pursuant to Circulation Element Recommendation C-9.14, the applicant would provide detours through or around construction zones that are designed for safety and convenience, and with adequate signage for cyclists and pedestrians.

PPP T-2 The City of Costa Mesa has a traffic impact fee program. This is a cumulative impact fee which would be determined in consultation with City of Costa Mesa Transportation Services Division staff to be paid in addition to direct project improvements required of the applicant. The City of Costa Mesa Transportation Services Division shall collect the project's traffic impact fee prior to issuance of the project's first residential building permit or as otherwise agreed to in the project's Development Agreement.

PPP T-3 The City of Costa Mesa has a fair share program. As projects are approved, and a need for a capital improvement(s) are identified, the City's Capital Improvement Projects (CIP) list is updated accordingly on an annual basis. The master CIP list, overseen by the Public Services Department, identifies (by each specific capital improvement) the necessary improvement, the specific funding amount, and the status of the improvement.

SCA T-1 The City of Costa Mesa Transportation Services Division will ensure that all mitigation measures identified in the *Traffic Impact Analysis: One Metro West, City of Costa Mesa Orange County, California* (TIA), prepared by LSA, dated November 2019 and/or One Metro West Environmental Impact Report have been implemented prior to issuance of the first occupancy permit.

TRIBAL CULTURAL RESOURCES

PPP TCR-1 The proposed project is required to comply with California Public Resources Code 5097.9–5097.991 (which protects Native American historical and cultural resources, and sacred sites); Public Resources Code 21084.3 (avoid damaging effects to any tribal cultural resource); Health and Safety Code Section 7050.5 (pertaining to the discovery or recognition of any human remains).

UTILITIES AND SERVICE SYSTEMS

Wastewater Treatment and Collection

PPP USS-1 The project's sewer infrastructure improvements are required to be designed, constructed, and operated in accordance with the Costa Mesa Sanitary District (CMSD) Operations Code.

PPP USS-2 The project's sewer infrastructure is required to be designed, constructed, and operated in accordance with the Orange County Sanitation District (OCSD) Ordinance Nos. 40 and 48, and all wastewater discharges into OCSD facilities shall be required to comply with the discharge standards set forth to protect the public sewage system/and Waters of the United States.

PPP USS-3 The project's sewer infrastructure is required to be designed, constructed, and operated in accordance with Municipal Code Sections 15-6, *Placing Oil On Streets or in Sewers Prohibited*, 15-67, *Required Construction*, 13-180, *Application Requirements*, and 13-71, *Utility Requirements*.

Water Supply and Distribution Systems

PPP USS-4 The project's water infrastructure improvements are required to be designed, constructed, and operated in accordance with the Mesa Water District's (MWD's) *Standard Specification and Standard Drawings for the Construction of Water Facilities*.

PPP USS-5 The proposed project is required to be planned, designed, installed, and maintained in accordance with Municipal Code Section 13-107, *Irrigation Requirements*, and Section 13-71, *Utility Requirements*.

PPP USS-6 The project is required to comply with California Energy Code and Green Building Code provisions related to water and energy conservation.

SCA FIRE-24 Water mains and hydrants shall be installed to the standards of Mesa Water District's (MWD) and dedicated along with repair easements to MWD.

Stormwater Infrastructure

PPP USS-7 The project's stormwater infrastructure shall be planned, designed, installed, and maintained in accordance with Municipal Code Section 8-35, *Permits*, which regulates permitted and illicit connections to the City's storm drain system in accordance with the National Pollutant Discharge Elimination System (NPDES) permit requirements.

SCA WQMP-66 Prior to or concurrent with submittal of plans for grading, building plan check, and/or submittal of the final subdivision map for engineering plan check, the applicant shall prepare and submit documentation for compliance with the State Water Resources Control Board (SWRCB) Water Quality Order 99-08-DWQ; National Pollutant Discharge Elimination System (NPDES) Permit No. CAS000002 for Storm Water Discharges Associated with Construction Activity (General Permit); the Santa Ana Regional Water Quality Control Board (Santa Ana RWQCB) Order No. R8-2009-0030, as amended by Order No. R82010-0062, or most recent (NPDES Permit No. CAS618030); and the City's Ordinance No. 97-20 for compliance with the NPDES permit. Such documentation shall include a Storm Water Pollution Prevention Plan (SWPPP) if over one acre and a Water Quality Management Plan (WQMP) identifying and detailing the implementation of applicable best management practices (BMPs).

SCA ENG-18 Proposed storm drain facilities shall be constructed pursuant to the *City of Costa Mesa Master Drainage Plan*.

SCA ENG-19 The project shall fulfill drainage ordinance fee requirements prior to approval of final maps and plans.

SCA ENG-21 Private on-site drainage facilities and parkway culverts or drains will not be maintained by the City and shall be maintained by the owner or developer of the property. Private lateral connections to City storm drains shall require a hold harmless agreement prior to issuance of grading or building permits.

Refer to *Hydrology and Water Quality*, for a discussion of PPP HYD-2 through PPP-HYD-4.

Solid Waste

PPP USS-8 The proposed project's solid waste infrastructure improvements are required to be designed, constructed, and operated in accordance with the applicable regulations in the Costa Mesa Sanitary District (CMSD) Operations Code.

PPP USS-9 The proposed project is required to store and collect recyclable materials in compliance with AB 341 and handle green waste in accordance with AB 1826.

PPP USS-10 The proposed project is required to recycle construction waste in accordance with the California Green Building Standards Code (CALGreen) requirements.

Other Utilities

No existing regulatory requirements, such as plans, policies, programs, or standard conditions of approval related to other utilities apply to the proposed project.

IMPACTS FOUND NOT TO BE SIGNIFICANT

PPP BIO-1 The proposed project is required to comply with the Migratory Bird Treaty Act, which governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, or nests.

PPP BIO-2 The proposed project is required to obtain a tree removal permit from the Parks, Arts & Community Services Commission (PACS) for any removal of trees within the City's public right-of-way (Municipal Code Chapter V, *Parkway Trees*). All permit terms for tree replacement would be implemented (at a ratio of 3:1). Before said trees are removed, the PACS shall provide recommendations and findings to the Director of Public Services.

SCA BIO-1 Any vegetation removal should take place outside of the active nesting bird season (i.e., February 15–August 15), when feasible, to avoid impacts to nesting birds that are protected under the California Fish and Game Code. Should vegetation removal take place during this period, a qualified biologist should conduct a nesting bird survey prior to construction activities to ensure that birds are not engaged in active nesting within 100 feet of the project site. If nesting birds are discovered during preconstruction surveys, the biologist should identify an appropriate buffer (i.e., up to 500 feet depending on the circumstances and specific bird species) where no construction activities or other disturbances are allowed to occur until after the birds have fledged from the nest and the nest is no longer active (as determined by the qualified biologist).

1. Executive Summary

Table 1-1, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation*, summarizes the conclusions of these environmental topic areas. Impacts are identified as less than significant or potentially significant, and mitigation measures are identified, if feasible, for potentially significant impacts. The level of significance after incorporation of the mitigation measures, if feasible, is also presented.

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.1 AESTHETICS			
Impact 5.1-1 – The proposed project could conflict with applicable zoning and other regulations governing scenic quality.	Potentially Significant Impact	AE-1 Prior to the issuance of the first building permit, the City's Development Services Department shall verify that the Applicant's Lighting Plan and Photometric Study prepared as part of SCA AE-5 demonstrates compliance with the following: ▪ The mounting height of lights on light standards shall not exceed 18 feet in any location on the project site unless approved by the Development Services Director. ▪ Rooftop lighting shall include cutoff optics to ensure lighting is aimed downward and does not contribute to sky brightness or skyglow. ▪ Parking structure lighting shall use shielding techniques to focus light into the parking lot areas and screen light from spilling to off-site areas, eliminating light trespass. ▪ The parking structure facade artistic treatment shall include light shields or baffles to eliminate glare to travelers along to I-405 Freeway. Exterior building lighting shall not exceed the Caltrans maximum brightness of 350 candelas per meter squared as measured from the adjacent freeway shoulder.	Less Than Significant Impact With Mitigation Incorporated.
Impact 5.1-2 – The proposed project could create a substantial new source of light and glare.	Potentially Significant Impact.	Refer to Mitigation Measure AE-1.	Less Than Significant Impact With Mitigation Incorporated.
Cumulative Impacts			
Impact 5.1-3 – Development of the proposed project and related projects could conflict with applicable zoning and other regulations governing scenic quality.	Potentially Significant Impact.	Refer to Mitigation Measure AE-1.	Less Than Significant Impact With Mitigation Incorporated.
Impact 5.1-4 – Development of the proposed project and related projects could create a substantial new source of light and glare.	Potentially Significant Impact.	Refer to Mitigation Measure AE-1.	Less Than Significant Impact With Mitigation Incorporated.

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.2 AIR QUALITY			
Impact 5.2-1 – Construction activities associated with the proposed project could generate short-term emissions in exceedance of SCAQMD's threshold criteria that would cumulatively contribute to the nonattainment designations in the Basin.	Potentially Significant Impact.	AIR-1 Prior to the issuance of a grading permit, the grading plans shall stipulate that the contractor shall use construction equipment that meets the U.S. Environmental Protection Agency Tier 3 level of emission controls fitted with Level 2 Diesel Particulate Filters (DPF) for all construction equipment 50 horsepower or more during construction activities. AIR-2 The project contractor shall only use interior paints with low VOC content with a maximum concentration of 30 grams per liter (g/L) for residential building architectural coating to reduce VOC emissions. All building and site plans shall note use of paints with a low VOC content with a maximum concentration of 30 g/L verified by the City of Costa Mesa prior to issuance of a building permit and during interior coating activities.	Significant and Unavoidable Impact.
Impact 5.2-2 – Operational air emissions associated with the proposed project would not exceed applicable SCAQMD threshold criteria.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-3 – Project construction would not expose sensitive receptors to substantial pollutant concentrations.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-4 – Project operations would not expose sensitive receptors to substantial pollutant concentrations.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-5 – The proposed project is consistent with the applicable air quality management plan.	Less than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-6 – The proposed project would not result in odors that affect a substantial number of people.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Cumulative Impacts			
Impact 5.2-7 – Cumulative construction activities associated with the proposed project could generate short-term emissions in	Potentially Significant Impact.	Refer to Mitigation Measures AIR-1 and AIR-2.	Significant and Unavoidable Impact.

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
exceedance of SCAQMD's threshold criteria that would cumulatively contribute to the Basins' nonattainment designations.			
Impact 5.2-8 – Long-term project operations would not generate cumulative air emissions in exceedance of applicable SCAQMD thresholds.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-9 – Construction of the project would not expose sensitive receptors to substantial cumulative pollutant concentrations.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-10 – Project operations would not expose sensitive receptors to substantial cumulative pollutant concentrations.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-11 – The proposed project is consistent with the applicable air quality management plan and would not cause a cumulative impact.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-12 – The proposed project would not result in odors that affect a substantial number of people and would not cause a cumulative impact.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.3 CULTURAL RESOURCES			
Impact 5.3-1 – Development of the proposed project would not impact an identified historical resource.	No Impact.	No mitigation measures are required.	No Impact.
Impact 5.3-2 – Development of the project could impact archaeological resources.	Potentially Significant Impact.	CUL-1 Prior to issuance of any grading permits, the City of Costa Mesa shall ensure a qualified archaeologist who meets the Secretary of the Interior's Standards for professional archaeology has been retained for the project and shall be on-call during all demolition and grading/excavation. The qualified archaeologist shall ensure the following measures are followed for the project: Prior to any ground disturbance, the qualified archaeologist, or their designee, shall provide worker environmental awareness protection training to	Less Than Significant Impact With Mitigation Incorporated.

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		construction personnel regarding regulatory requirements for the protection of cultural (prehistoric and historic) resources. As part of this training, construction personnel shall be briefed on proper procedures to follow should unanticipated cultural resources be discovered during construction. Workers shall be provided contact information and protocols to follow in the event that inadvertent discoveries are made. The training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the project. Prior to any ground disturbance, the applicant shall submit a written Project Monitoring Plan (PMP) to the City's Development Services Director for review and approval. The monitoring plan shall include monitor contact information, specific procedures for field observation, diverting and grading to protect finds, and procedures to be followed in the event of significant finds. In the event unanticipated cultural material is encountered during any stage of project construction, all construction work within 50 feet (15 meters) of the find shall cease and the qualified archaeologist shall assess the find for importance. Construction activities may continue in other areas. If the discovery is determined to not be important by the qualified archaeologist, work shall be permitted to continue in the area. If warranted based on the qualified archaeologist's evaluation of the find, the archaeologist shall collect the resource and prepare a test-level report describing the results of the investigation. The test-level report shall evaluate the site including discussing the significance (depth, nature, condition, and extent of the resource), identifying final mitigation measures the City's Development Services Director shall verify are incorporated into future construction plans, and providing cost estimates. If the qualified archaeologist determines that the find is prehistoric or includes Native American materials, affiliated Native American groups shall be invited to contribute to the assessment and recovery of the resource, as applicable. The qualified archaeologist and any applicable Native American contacts shall collect the resource and prepare a test-level report describing the results of the investigation. The test-level report shall evaluate the site including discussion of significance (depth, nature, condition, and extent of the	

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		resources), final mitigation recommendations, and cost estimates. Salvage operation requirements pursuant to Section 15064.5 of the CEQA Guidelines shall be followed. Work within the area of discovery shall resume only after the resource has been appropriately inventoried, documented, and recovered, as applicable.	
Impact 5.3-3 – Grading activities would not disturb human remains.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Cumulative Impacts			
Impact 5.3-4 – Development of the proposed project and related projects would not result in cumulatively considerable impacts to historical resources.	No Impact.	No mitigation measures are required.	No Impact.
Impact 5.3-5 – Development of the proposed project and related projects could result in cumulatively considerable impacts to archaeological resources.	Potentially Significant Impact.	Refer to Mitigation Measure CUL-1.	Less Than Significant Impact With Mitigation Incorporated.
Impact 5.3-6 – Development of the proposed project and related projects would not result in cumulatively considerable impacts to human remains.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.4 ENERGY			
Impact 5.4-1 – The project would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.4-2 – The project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Cumulative Impacts			
Impact 5.4-3 – The project would not result in a cumulatively significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.4-4 – The proposed project, in combination with related projects, would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.5 GEOLOGY AND SOILS			
Impact 5.5-1 – Development of the proposed project would not directly or indirectly cause potential substantial adverse effects involving seismic-related hazards.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.5-2 – Development of the proposed project would not result in substantial soil erosion or loss of topsoil.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.5-3 – Development of the proposed project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.5-4 – The proposed project would not create substantial risks to life and property due to expansive soils.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.5-5 – Development of the proposed project could impact unknown paleontological resources.	Potentially Significant Impact.	GEO-1 The project applicant shall retain a qualified paleontologist to develop a Paleontological Resources Impact Mitigation Program (PRIMP) for this project. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology and include the methods that shall be used to protect paleontological resources that may exist within the project area, as well as	Less Than Significant Impact With Mitigation Incorporated.

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of grading. A copy of the PRIMP shall be submitted to the Development Services Department prior to the issuance of a grading permit. GEO-2 Excavation and grading activities in deposits with high paleontological sensitivity shall be monitored by a qualified paleontological monitor following a PRIMP. No paleontological monitoring is required for activities in artificial fill or the young alluvial fan deposits from the surface to a depth of ten feet bgs. If paleontological resources are encountered during the course of ground disturbance activities, the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find in order to assess its significance. In the event paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected, and a paleontologist shall be contacted to assess the find for significance. If determined to be significant, the fossil shall be collected from the field. GEO-3 If paleontological resources are determined to be significant by the qualified paleontologist, the collected paleontological resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. At the conclusion of the monitoring program, a report of findings shall be prepared by the qualified paleontologist to document the results of the monitoring program, and a copy of the report shall be provided to the Development Services Department.	
Cumulative Impacts			
Impact 5.5-6 – Development of the proposed project and related projects would not result in cumulatively considerable geology and soils impacts.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.5-7 – Development of the proposed project and related cumulative projects could result in cumulatively considerable impacts to paleontological resources.	Potentially Significant Impact.	Refer to Mitigation Measures GEO-1 through GEO-3.	Less Than Significant Impact With Mitigation Incorporated.

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.6 GREENHOUSE GAS EMISSIONS			
Impact 5.6-1 – Implementation of the proposed project could generate a net increase in GHG emissions that would have a significant impact on the environment.	Potentially Significant Impact.	GHG-1 Prior to issuance of a building permit, the City's Planning Division shall verify that the applicant has designed the proposed parking areas to provide preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles. At a minimum, the number of EV charging stations shall be equal to Tier 2 Nonresidential Voluntary Measures of the California Green Building Standards Code Section A5.106.5.1.2. GHG-2 Prior to issuance of a building permit, the City's Building Division shall verify that the applicant has designed the proposed parking areas to provide electric vehicle (EV) charging stations. At a minimum, the number of EV charging stations shall be equal to the Tier 2 Nonresidential Voluntary Measures of the California Green Building Standards Code Section A5.106.5.3.2.	Significant and Unavoidable Impact.
Impact 5.6-2 – Implementation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Cumulative Impacts			
Impact 5.6-3 – Implementation of the proposed project could generate a net increase in GHG emissions that would result in a cumulatively significant impact on the environment.	Potentially Significant.	Refer to Mitigation Measures GHG-1 and GHG-2.	Significant and Unavoidable Impact.
Impact 5.6-4 – Implementation of the proposed project, in combination with related projects, would not cumulatively conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.7 HAZARDS AND HAZARDOUS MATERIALS			
Impact 5.7-1 – Project construction and operation could create a significant hazard through the routine transport, use, or disposal of hazardous waste.	Potentially Significant Impact.	HAZ-1 Prior to issuance of a grading permit, the Soils Management Plan (SMP) (prepared by Geocon Incorporated, dated July 24, 2019) shall be made available to the contractor and City Engineer for use prior to and during grading activities. The following Performance Criteria shall be incorporated	Less Than Significant Impact With Mitigation Incorporated.

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		into the SMP prior to issuance of a grading permit: ▪ Site-specific health and safety requirements, pre-field activities, site control, excavation of impacted soil, dust and erosion control, air monitoring, decontamination, field documentation and confirmation soil sampling shall be implemented under the oversight of a licensed professional geologist or engineer and the appropriate regulatory oversight agencies (including DTSC and Santa Ana RWQCB) shall be notified, as required by law; ▪ If contaminated soil is encountered, the appropriate regulatory oversight agencies (e.g., DTSC, RWQCB, OCHCA) shall be notified; ▪ Soil sampling shall follow the protocols outlined in the DTSC Preliminary Endangerment Assessment Guidance Manual dated October 2015; and ▪ Soil import/export verification sampling shall be conducted by a qualified environmental professional to confirm the presence or absence of hazardous materials prior to hauling off-site. Proof of verification sampling shall be provided to the City Engineer prior to import/export. In the event potential contamination is encountered, the contamination shall be evaluated by the qualified environmental professional using appropriate collection and sampling techniques as determined by the appropriate regulatory oversight agency (e.g., DTSC, RWQCB, OCHCA). The nature and extent of contamination shall be determined and the appropriate handling, disposal, and/or treatment shall be implemented in accordance with applicable regulatory requirements. HAZ-2 Contractors shall be responsible for the health and safety of their own employees and are required to have their own Health and Safety Plan (HSP) and Injury and Illness Prevention Plans (IIPPs) to comply with OSHA. The HSPs shall provide health and safety guidance such that field activities can be conducted in a safe manner. The plan must be kept on site during any soil disturbance and hauling activities, if required.	
Impact 5.7-2 – Project construction and operations could create a significant hazard	Potentially Significant Impact.	Refer to Mitigation Measures HAZ-1 and HAZ-2.	Less Than Significant Impact With Mitigation

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
through reasonably foreseeable upset and accident conditions involving the release of hazardous materials.			Incorporated.
Impact 5.7-3 – The project would be located within an airport land use plan (or where such a plan has not been adopted) or within two miles of a public airport or public use airport, but would not result in a safety hazard for people residing or working in the project area.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.7-4 – Project development could affect the implementation of an emergency responder or evacuation plan.	Potentially Significant Impact.	HAZ-3 At least three business days prior to any lane closure, the construction contractor shall notify the Costa Mesa Police Department and Costa Mesa Fire Department, along with the City of Costa Mesa Public Services Director, of construction activities that would impede movement (such as road or lane closures), to allow for uninterrupted emergency access of evacuation routes.	Less Than Significant Impact With Mitigation Incorporated.
Cumulative Impacts			
Impact 5.7-5 – Construction and operation of the proposed project and related projects could create a cumulatively considerable impact to the environment through the routine transport, use, or disposal of hazardous waste.	Potentially Significant Impact.	Refer to Mitigation Measures HAZ-1 and HAZ-2.	Less Than Significant Impact With Mitigation Incorporated.
Impact 5.7-6 – Construction and operation of the proposed project and related projects could result in a cumulatively considerable impact through reasonably foreseeable upset and accident conditions involving the release of hazardous materials.	Potentially Significant Impact.	Refer to Mitigation Measures HAZ-1 and HAZ-2.	Less Than Significant Impact With Mitigation Incorporated.
Impact 5.7-7 – The project and related projects could be located within an airport land use plan (or where such a plan has not been adopted) or within two miles of a public airport or public use airport, but would not result in a safety hazard for people residing or working in the project area.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 5.7-8 – Development of the proposed project and related projects could affect the implementation of an emergency responder or evacuation plan.	Potentially Significant Impact.	Refer to Mitigation Measure HAZ-3.	Less Than Significant Impact With Mitigation Incorporated.
5.8 HYDROLOGY AND WATER QUALITY			
Impact 5.8-1 – The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-2 – The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-3 – The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-4 – The proposed project would not substantially increase the rate or amount of surface runoff and result in flooding on- or off-site.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-5 – The proposed project would not impede or redirect flood flows.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-6 – The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Cumulative Impacts			
Impact 5.8-7 – Development of the proposed project and related projects would not result in cumulatively considerable impacts to water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-8 – Development of the proposed project and related projects would not result in cumulatively considerable impacts to groundwater supplies or interfere substantially with groundwater recharge such that sustainable groundwater management of the basin is impeded.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-9 – Development of the proposed project and related projects would not result in cumulatively considerable impacts related to substantially altering 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 a substantial erosion or siltation on- or off-site.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-10 – Development of the proposed project and related projects would not result in cumulatively considerable impacts related to substantially increasing the rate or amount of surface runoff and result in flooding on- or off-site.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-11 – Development of the proposed project and related projects would not result in cumulatively considerable impacts related to impeding or redirecting flood flows.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-12 –Development of the proposed project and related projects would not result in	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
cumulatively considerable impacts related to conflicting with or obstructing implementation of a water quality control plan or sustainable groundwater management plan.			
5.9 LAND USE AND PLANNING			
Impact 5.9-1 – Project implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Cumulative Impacts			
Impact 5.9-2 – Development of the proposed project in combination with related projects would not result in cumulatively considerable conflicts with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.10 NOISE			
Impact 5.10-1 – Construction activities would not result in temporary noise increases in the project vicinity but would not exceed applicable standards.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.10-2 – Long-term operational noise generated by the proposed project would not exceed applicable standards.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.10-3 – The project would not generate excessive short- or long-term groundborne vibration or noise.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 5.10-4 – The proximity of the project site to the John Wayne Airport would not result in exposure of future residents and/or workers to excessive airport-related noise.	No Impact.	No mitigation measures are required.	No Impact.
Cumulative Impacts			
Impact 5.10-5 – Cumulative construction activities would not result in temporary noise increases that could exceed applicable standards.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.10-6 – Implementation of the proposed project, in combination with related projects, would not result in a cumulatively significant long-term operation-related noise impacts.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.10-7 – Implementation of the proposed project, in combination with related projects, would not cumulatively create excessive long-term or short-term groundborne vibration and groundborne noise.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.10-8 – Project development, in combination with related projects, would not cumulatively expose future residents and/or workers to excessive airport-related noise.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.11 POPULATION AND HOUSING			
Impact 5.11-1 – The proposed project would not directly or indirectly result in substantial unplanned population growth in the project area.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Cumulative Impacts			
Impact 5.11-2 – Development of the proposed project and related projects would not result in cumulatively considerable impacts related to substantial unplanned population growth.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.12 PUBLIC SERVICES AND RECREATION			
Impact 5.12-1 – The proposed project could increase the intensity of the project site, thereby increasing the demand for fire protection facilities and personnel.	Potentially Significant Impact.	PS-1 Prior to issuance of the first occupancy permit, the applicant shall provide written documentation to the City of Costa Mesa Development Services Department that the existing traffic signals along the response corridors from Costa Mesa Fire & Rescue Department (CMFD) Stations 1, 2, 4, 5, and 6 to the project site have been retrofitted with Emergency Vehicle Preemption (EVP) as required by CMFD. PS-2 In addition to compliance with standard fire protection requirements of the California Fire Code and referenced standards as adopted by the Costa Mesa Fire & Rescue Department (CMFD), the project shall provide the following three fire protection features in excess of minimum code requirements to ensure the proposed Building A and associated parking garage design meet CMFD's fire apparatus access road and hose pull requirements: ▪ Wet standpipes with one, 2.5-inch connection shall be provided at, or near, the end of each of the 300-foot hose pull reaches; ▪ An increase fire sprinkler density of 0.20 gallons per minute (GPM)/1500 without any corresponding reduction in design area due to the use of quick response sprinkler heads shall be included in the sprinkler system design; and ▪ A two-hour firefighter tunnel shall be provided to reduce the project's deficient hose pull. All other apparatus access roads, buildings, and structures on-site shall comply with the fire protection requirements of the California Fire Code and referenced standards as adopted by the CMFD.	Less Than Significant Impact With Mitigation Incorporated.

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 5.12-2 – The proposed project would not significantly increase the intensity of development at the site, thereby increasing the demand for police protection facilities and personnel.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.12-3 – The proposed project would introduce new students into the NMUSD service area, but would not adversely impact school enrollment capacities.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.12-4 – Project development would not significantly increase residents in the OCPL service area, thus increasing demands for library facilities and services.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.12-5 – Project development would introduce additional residents in the City, but would not substantially increase demands for park facilities and recreation services.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Cumulative Impacts			
Impact 5.12-6 – The project, combined with other related projects, could increase demand for CMFD services that could cause significant environmental impacts.	Potentially Significant Impact.	Refer to Mitigation Measures PS-1 and PS-2.	Less Than Significant Impact With Mitigation Incorporated.
Impact 5.12-7 – The project, combined with other cumulative projects, would not substantially increase demand for CMPD services that could cause significant environmental impacts.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.12-8 – Development of the proposed project, in combination with related projects, would not adversely impact NMUSD's facilities and resources.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.12-9 – The project, combined with other cumulative projects, would not	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
substantially increase demands for OCPL services that could cause significant environmental impacts.			
Impact 5.12-10 – The project, combined with other cumulative projects, would not substantially increase demands for parks and recreational facilities that could cause significant environmental impacts.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.13 TRANSPORTATION			
Impact 5.13-1 – The project could conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	Potentially Significant Impact.	T-1 Prior to the issuance of the first building permit, the project applicant shall contribute its fair share contribution to the City of Costa Mesa Transportation Division for the implementation of adding a southbound right-turn lane by restriping Susan Street at the intersection Susan Street/South Coast Drive (Study Intersection No. 18). Upon project approval, the City shall update the Capital Improvement Projects list accordingly. T-2 Prior to the issuance of the first building permit, the project applicant shall contribute its fair share contribution to the City of Fountain Valley Transportation Division for improvements to the intersection of Talbert Avenue/Mt. Washington Street (Study Intersection No. 28), including adding a traffic signal, restriping the northbound approach to a shared left through lane and a dedicated right turn lane, converting the southbound right turn lane to a dedicated channelized free right turn lane, and adding overlap phasing for a northbound right turn movement.	Significant and Unavoidable Impact.
Impact 5.13-2 – The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.13-3 – The project would not result in inadequate emergency access.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.13-4 – Development of the proposed project and related projects could cumulatively conflict with a program, plan, ordinance, or	Potentially Significant Impact.	Refer to Mitigation Measures T-1 and T-2.	Significant and Unavoidable Impact.

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.			
Impact 5.13-5 – Development of the proposed project and related projects would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.13-6 – Development of the proposed project and related projects would not result in cumulatively considerable impacts to emergency access.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.14 TRIBAL CULTURAL RESOURCES			
Impact 5.14-1 – Development of the proposed project could impact unknown tribal cultural resources.	Potentially Significant Impact.	TCR-1 Prior to issuance of any grading permits, the qualified archaeologist (required pursuant to Mitigation Measure CUL-1) shall identify a Native American Monitor determined by the City of Costa Mesa and in consultation with the Native American Heritage Commission for the project grading activities and/or any other activities involving native soils. In the event unanticipated tribal cultural material is encountered during any stage of site disturbance/construction, the Native American Monitor shall be contacted and all construction work within 50 feet (15 meters) of the find shall cease until the find can be assessed. If, in consultation with the City, the discovery is determined to not be significant, work will be permitted to continue in the area. If the resources appear to be of significant tribal cultural value, they shall be professionally recovered pursuant to the requirements of Mitigation Measure CUL-1 and in consultation with the Native American Monitor identified.	Less Than Significant Impact With Mitigation Incorporated.

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Cumulative Impacts			
Impact 5.14-1 – Development of the proposed project and related projects could result in cumulatively considerable impacts to unknown tribal cultural resources.	Potentially Significant Impact.	Refer to Mitigation Measures TCR-1.	Less Than Significant Impact With Mitigation Incorporated.
5.15 UTILITIES AND SERVICE SYSTEMS			
Impact 5.15-1 – Existing and proposed wastewater facilities would be able to accommodate project-generated wastewater.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.15-2 – Existing water supply and delivery systems are adequate to meet project-generated water demand.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.15-3 – Existing and proposed stormwater facilities would be able to accommodate project-generated stormwater flow.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.15-4 – Existing solid waste facilities would be able to accommodate project-generated solid waste and the project would comply with existing solid waste regulations.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.15-5 – Existing electricity and natural gas service providers would be able to accommodate project-generated utility demands.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.15-6 – Development of the project, in combination with related projects, would not cumulatively impact existing and proposed wastewater facilities.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.15-7 – Existing and planned water supply and delivery systems are adequate to meet water demands of the proposed project and related projects.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation, continued

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 5.15-8 – Development of the project, in combination with related projects, would not cumulatively impact existing and proposed storm drain facilities.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.15-9 – The proposed project, in combination with related projects, would not adversely impact the capacity of existing solid waste facilities and would comply with existing solid waste regulations.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.15-10 – Development of the project, in combination with related projects, would not cumulatively impact existing electricity and natural gas service providers.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

1.7 SUMMARY OF PROJECT ALTERNATIVES

In accordance with CEQA Guidelines Section 15126.6, this section provides a summary description of the alternatives to the project, which could feasibly attain most of the project's basic objectives, while avoiding or substantially lessening the project's significant effects. The evaluation considers the comparative merits of each alternative. The analysis focuses on alternatives capable of avoiding or substantially lessening the project's significant environmental effects, even if the alternative would impede, to some degree, the attainment of the proposed project objectives. The following alternatives are considered in this EIR:

- No Project/No Development Alternative; and
- Reduced Development Intensity Alternative.

Throughout Chapter 7, *Alternatives to the Proposed Project*, the alternatives' impacts are analyzed for each environmental issue area, as examined in Sections 5.1 through 5.15 of this EIR. In this manner, each alternative was compared to the project on an issue-by-issue basis. The following is a summary description of each of the alternatives evaluated in Chapter 7.

1.7.1 No Project/No Development Alternative

The No Project/No Development Alternative is required to discuss the existing conditions at the time the Notice of Preparation is published (May 2019) (CEQA Guidelines Section 15126.6[e]). Therefore, the No Project/No Development Alternative assumes that the proposed Specific Plan would not be approved and no new development would occur on-site. The existing one-story 345,000-square foot industrial building would continue to operate similar to existing conditions.

1.7.2 Reduced Development Intensity Alternative

The Reduced Development Intensity Alternative was selected to avoid or substantially lessen the proposed project's significant unavoidable impacts related to air quality (construction), greenhouse gas emissions, and transportation. This alternative assumes a 20 percent reduction in residential units and elimination of the 25,000-square foot creative office building and 1.5-acre open space. Similar to the proposed project, and as shown on Figure 7-1, *Reduced Development Intensity Alternative*, the 845 residential units would be constructed in three multi-story buildings, however, Building B would be slightly relocated to the west where the 1.5-acre open space was previously proposed and one level of Building A would be eliminated, reducing its height to five stories. This alternative would still provide affordable units, but the number of units would be proportionally lower than the proposed project. Given the reduction in residential units, parking on-site would also be reduced by a proportional amount while still meeting the Specific Plan parking requirements.

Under this alternative, the project would not be able to finance all proposed amenities and thus, would eliminate the 1,500-square foot community room, bicycle lockers, bicycle storage, bicycle repair facilities, active transportation hub, Sunflower Avenue pedestrian and bicyclist facility improvements, and trail improvements along the western portion of the site towards the Santa Ana River Trail.

Overall, the reduction in residential and non-residential development (212 fewer residential units, 25,000 fewer square feet of creative office space, and elimination of the 1.5-acre open space) would reduce associated vehicle trips and impacts related to air quality, greenhouse gas emissions, and transportation. Refer to Table 7-1, *Reduced Development Intensity Alternative Trip Generation*.

Discretionary actions required under this alternative would be similar to the proposed project, and would include General Plan Amendments, Zone Change/Zoning Code Amendment, Specific Plan, Master Plan, Development Agreement, Tentative Tract Map, Tree Removal Permit, and Public Art Plan. Similarly, upon City Council approval, this alternative would be subject to Measure Y.

1.7.3 Environmentally Superior Alternative

CEQA requires a lead agency to identify the "environmentally superior alternative" and, in cases where the "No Project" Alternative is environmentally superior to the proposed project, the environmentally superior development alternative must be identified. Table 1-2, *Comparison of Alternatives*, summarizes the comparative analysis presented above. As shown, the No Project/No Development Alternative results in the most "environmentally superior" or "neither environmentally superior nor inferior" topical areas and also eliminates the project's significant and unavoidable impacts related to construction air quality and greenhouse gas emissions; thus, it is the environmentally superior alternative. Since the "No Project" Alternative is environmentally superior to the proposed project, the environmentally superior development alternative is the Reduced Development Intensity Alternative.

Table 1-2 Comparison of Alternatives

Sections	Proposed Project	No Project/No Development Alternative	Reduced Development Intensity Alternative
Aesthetics	LTS/M	=	=
Air Quality	**S/U**	↓*	↓
Cultural Resources	LTS/M	↓	=
Energy	LTS	↓	↓
Geology and Soils	LTS/M	↓	=
Greenhouse Gas Emissions	**S/U**	↓*	↓
Hazards and Hazardous Materials	LTS/M	=	=
Hydrology and Water Quality	LTS	↑	=
Land Use and Planning	LTS	↑	↑
Noise	LTS	↓	↓
Population and Housing	LTS	=	=
Public Services and Recreation	LTS/M	↓	↓
Transportation	**S/U**	↓*	↓*
Tribal Cultural Resources	LTS/M	↓	=
Utilities and Service Systems	LTS	↓	↓

Notes: LTS = Less Than Significant; LTS/M = Less Than Significant With Mitigation; **S/U = Significant and Unavoidable**
↑ Indicates an impact that is greater than the project (environmentally inferior).
↓ Indicates an impact that is less than the project (environmentally superior).
= Indicates an impact that is equal to the project (neither environmentally superior nor inferior).
* Indicates an impact that would eliminate one or more significant and unavoidable impacts associated with the project.

Under the Reduced Development Intensity Alternative, impacts to air quality (construction), greenhouse gas emissions, and transportation would be reduced compared to the proposed project, but would remain significant and unavoidable. This alternative would also lessen the project's less than significant impacts pertaining to energy, noise, public services and recreation, and utilities and service systems. This alternative would result in similar impacts in the areas of aesthetics, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, population and housing, and tribal cultural resources. Potential impacts related to land use and planning would be slightly greater due to reduction of on-site and off-site amenities.

1. Executive Summary

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Chapter 2.0 Introduction

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2. Introduction

2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

2.1.1 California Environmental Quality Act Compliance

The California Environmental Quality Act (CEQA) requires that all State and local governmental agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. This Draft Environmental Impact Report (Draft EIR) has been prepared to satisfy CEQA, as amended (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines, as amended (California Code of Regulations Section 15000 et seq.). The Draft EIR is a public document designed to provide decision makers and the public with an analysis of the environmental effects of the proposed project, to indicate possible ways to reduce or avoid environmental damage, and to identify alternatives to the project. The EIR must also disclose significant environmental impacts that cannot be avoided; growth inducing impacts; effects found not to be significant; and significant cumulative impacts of all past, present, and reasonably foreseeable future projects.

The intent of the Draft EIR is to provide enough information on the potential environmental impacts of the proposed project to allow the City of Costa Mesa (City) to make an informed decision regarding approval of the project. Specific discretionary actions to be reviewed by the City are described in Section 3.4, *Intended Uses of the EIR*.

The overall purpose of this Draft EIR is to inform the lead agency, responsible agencies, decision makers, and the general public about the environmental effects of the construction and operation of the proposed project. This Draft EIR addresses effects that may be significant and adverse, identifies mitigation measures to reduce or avoid adverse effects, and evaluates alternatives to the project.

2.1.2 Lead Agency and Responsible Agencies

The lead agency is defined as "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (CEQA Guidelines Section 21067). The City has the principal responsibility for approval of the One Metro West project (project). For this reason, the City is the CEQA lead agency for this project. The City will be reviewing and considering the determinations of the Final EIR prior to exercising its independent judgment to approve, modify, or reject the proposed project.

A responsible agency is the public agency which has the responsibility to carry out or approve a project for which a lead agency is preparing or has prepared an environmental document. For the purposes of CEQA, the

term "responsible agency" includes all public agencies other than the lead agency which have discretionary approval power over the project.

2.2 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared pursuant to CEQA to assess the environmental effects associated with implementation of the proposed project, as well as anticipated future discretionary actions and approvals. The six main purposes of this document, as established by CEQA, are listed below:

1. To disclose to decision makers and the public the significant environmental effects of proposed activities.

2. To identify ways to avoid or reduce environmental damage.

3. To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.

4. To disclose to the public reasons for agency approval of projects with significant environmental effects.

5. To foster interagency coordination in the review of projects.

6. To enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation identified in CEQA and the CEQA Guidelines to provide the information needed to assess the environmental consequences of a proposed project. EIRs are intended to provide an objective, factually supported analysis and full disclosure of the environmental consequences of a proposed project with the potential to result in significant adverse environmental impacts.

An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Before approving a proposed project, the lead agency must consider the information in the EIR; determine whether the EIR was properly prepared in accordance with CEQA and the CEQA Guidelines; determine that it reflects the independent judgment of the lead agency; adopt findings concerning the project's significant environmental impacts and alternatives; and adopt a Statement of Overriding Considerations if the proposed project would result in significant environmental impacts even after incorporation of feasible mitigation measures, and if there are, on balance, overriding benefits which outweigh the remaining adverse impacts.

2.2.1 EIR Format

This Draft EIR has been formatted as described below.

Chapter 1. Executive Summary: Summarizes the background and description of the proposed project, project alternatives, any critical issues remaining to be resolved, and the potential environmental impacts and mitigation measures identified for the project.

Chapter 2. Introduction: Describes the purpose of this Draft EIR, background on the project, the format of this Draft EIR, the Notice of Preparation (NOP), the use of incorporation by reference, and Final EIR certification.

Chapter 3. Project Description: Provides a detailed description of the project, including its objectives, area and location, approvals anticipated to be required as part of the project, necessary environmental clearances, and the intended uses of this Draft EIR.

Chapter 4. Environmental Setting: Includes a description of the physical environmental conditions in the vicinity of the project as they existed at the time the NOP was published, from local and regional perspectives. This provides the baseline physical conditions from which the lead agency determines the significance of the project's environmental impacts.

Chapter 5. Environmental Analysis: Each environmental topic is analyzed in a separate section that discusses:

- Existing regulatory and environmental setting;
- Thresholds used to determine if a significant impact would occur;
- Applicable plans, programs, policies, and standard conditions of approval;
- Potential environmental impacts of the project;
- Potential cumulative impacts;
- Level of impact significance before mitigation;
- Mitigation measures for the proposed project; and
- Level of significance after mitigation is incorporated.

Chapter 6. Significant Unavoidable Adverse Impacts: Describes the significant unavoidable adverse impacts of the proposed project.

Chapter 7. Alternatives to the Proposed Project: Describes a reasonable range of alternatives to the proposed project and the impacts of the alternatives compared to the proposed project.

Chapter 8. Impacts Found Not to Be Significant: Describes the potential impacts of the project that were determined not to be significant and were, therefore, not discussed in detail in this Draft EIR.

Chapter 9. Significant Irreversible Changes Due to the Proposed Project: Describes the significant irreversible environmental changes associated with the proposed project.

Chapter 10. Growth-Inducing Impacts of the Project: Describes the ways in which the proposed project would cause increases in employment or population that could result in new physical or environmental impacts.

Chapter 11. Organizations and Persons Consulted: Lists the people who prepared this Draft EIR and organizations and persons contacted during the preparation of this Draft EIR.

Chapter 12. Bibliography: Lists the technical reports and other sources used to prepare this Draft EIR.

Appendices: The appendices for this document comprise these supporting documents:

- Appendix A: Notice of Preparation (NOP)
- Appendix B: NOP Comments
- Appendix C: Air Quality and Greenhouse Gas Impact Analysis
- Appendix D: Cultural Resources Survey Report
- Appendix E: Preliminary Geotechnical Investigation
- Appendix F: Paleontological Resources Assessment
- Appendix G: Phase I Environmental Site Assessment Report
- Appendix H: Asbestos Survey
- Appendix I: Preliminary Hydrology Report
- Appendix J: Preliminary Water Quality Management Plan
- Appendix K: Noise and Vibration Impact Analysis
- Appendix L: Public Services and Utilities Correspondence
- Appendix M: Traffic Impact Analysis
- Appendix N: Water Supply Assessment

2.2.2 Type and Purpose of This EIR

This EIR has been prepared as a "Project EIR" as defined by Section 15161 of the CEQA Guidelines. This type of EIR examines the environmental impacts of a specific development project and should focus primarily on the changes in the environment that would result from the development project. The EIR examines all stages of the project, including planning, construction, and operation.

2.3 SCOPING PROCESS

The City determined that an EIR would be required for this project and issued an NOP on May 23, 2019; refer to Appendix A, *Notice of Preparation (NOP)*. The NOP was distributed for public review from May 23, 2019 to June 26, 2019, in exceedance of the required 30-day public review period. Comment letters received are provided in Appendix B, *NOP Comments*.

The NOP process helps determine the scope of the environmental issues to be addressed in the Draft EIR. Based on this process, certain environmental categories were identified as having the potential to result in significant impacts. Issues considered potentially significant are addressed in Chapter 5, *Environmental Analysis*; issues determined to have no impact and how the determinations were made are provided in Chapter 8, *Impacts Found Not to Be Significant*.

As detailed in Table 2-1, *NOP and Public Scoping Meeting Commenters*, thirteen agencies, two organizations, and 20 residents/interested parties responded to the NOP and/or provided comments during the public scoping meeting conducted by the City on June 5, 2019 at the Costa Mesa Senior Center, 695 West 19th Street, Costa Mesa, California 92627.

Table 2-1 NOP and Public Scoping Meeting Commenters

Commenter	Date
Agencies	
Governor's Office of Planning and Research – State Clearinghouse and Planning Unit	May 23, 2019
Native American Heritage Commission	June 7, 2019
Southern California Gas Company	June 10, 2019
South Coast Air Quality Management District	June 11, 2019
Department of Toxic Substances Control	June 13, 2019
City of Fountain Valley – Planning Department	June 14, 2019
Orange County Transportation Authority	June 18, 2019
California Department of Transportation – District 12	June 19, 2019
City of Irvine – Community Development Department	June 20, 2019
OC Public Works – Service Area/OC Development Services	June 20, 2019
Southern California Association of Governments	June 20, 2019
Airport Land Use Commission for Orange County	June 20, 2019
City of Santa Ana – Planning and Building Agency	June 21, 2019
Organizations	
Rincon Band of Luiseño Indians	May 28, 2019
Earthjustice	June 20, 2019
Individuals	
Amy and Maurice Mamo	May 30, 2019
Bill Partnoff	May 30, June 5[1], and June 21, 2019
Debra Marsteller	May 30, 2019
Bob Rasch	May 31, 2019
Kemmer Fitzsimmons	May 31, 2019
Anna Vrska	June 5, 2019[1]
Jason Thesing	June 5, 2019[1]
Mary Spadoni	June 5, 2019[1]
Priscilla Rocco	June 5[1] and June 21, 2019
Sandra Genis	June 5, 2019[1]
Andrew Nelson	June 20, 2019
Russell Rowlands	June 20, 2019
Jan Harmon	June 21, 2019
Karen Klepack	June 21, 2019
Noah and Marin Von Blom	June 21, 2019
Sue Bright	June 21, 2019
Kenneth J. Rhea	June 21, 2019
Shawn McBride	June 24, 2019
Mike Mullen	June 25, 2019
Tim O'Brien	February 25, 2019[2]

Notes:
1 Comments received on June 5, 2019 were received during the public scoping meeting.
2 This date was likely incorrect on the letter and should be June 25, 2019.

A summary of the primary issue areas, and where in the Draft EIR the issues are addressed, are as follows:

- Aesthetic and lighting impacts related to the existing visual character and quality of the project area (refer to Section 5.1, *Aesthetics*);
- Impacts related to air quality and health risk (refer to Section 5.2, *Air Quality*);
- Impacts to cultural and archaeological resources (refer to Section 5.3, *Cultural Resources*);
- Impacts related to energy use (refer to Section 5.4, *Energy*);

- Greenhouse gas emissions impacts associated with project construction and operations (refer to Section 5.6, *Greenhouse Gas Emissions*);
- Impacts related to hazardous materials in the project vicinity (refer to Section 5.7, *Hazards and Hazardous Materials*);
- Hydrology, water quality, and flooding impacts related to project operations (refer to Section 5.8, *Hydrology and Water Quality*);
- Consistency with local and regional planning documentation, goals, and policies (refer to Section 5.9, *Land Use and Planning*);
- Noise created by project construction and operations in the site vicinity (refer to Section 5.10, *Noise*);
- Impacts on public services (refer to Section 5.12, *Public Services*);
- Traffic, circulation, and access impacts to local and regional roadway facilities, and impacts to pedestrians and bicyclists (refer to Section 5.13, *Transportation*);
- Impacts on existing infrastructure facilities (refer to Section 5.15, *Utilities and Service Systems*); and
- Consideration of other project alternatives (refer to Chapter 7, *Alternatives to the Proposed Project*).

2.4 SCOPE OF THIS DRAFT EIR

The scope of the Draft EIR was determined based on review of the current conditions of the project site and surrounding area, the scope of the proposed project, comments received in response to the NOP, and comments received at the scoping meeting conducted by the City on June 5, 2019, at 3:30 p.m. to 7:00 p.m. at Costa Mesa Senior Center at 695 West 19th Street, Costa Mesa, California 92627. The purpose of the scoping meeting was to provide an open house forum for the public and other agencies to learn about the project and the CEQA process and to provide input on the environmental issues that should be addressed in the EIR. Attendees were instructed to provide written comments on the proposed project and EIR; comment letters received from attendees are included in Appendix B; refer also to Table 2-1. Appendix B summarizes the issues identified by commenting agencies or persons. Pursuant to Sections 15126.2 and 15126.4 of the CEQA Guidelines, the Draft EIR should identify any potentially significant adverse impacts and recommend mitigation that would reduce or eliminate these impacts to levels of insignificance.

The information in Chapter 3, *Project Description*, establishes the basis for analyzing future, project-related environmental impacts.

2.4.1 Potentially Significant Adverse Impacts

The City determined the following 16 environmental factors have potentially significant impacts if the proposed project is implemented:

- Aesthetics;
- Air Quality;
- Cultural Resources;
- Energy;
- Geology and Soils;

- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise;
- Population and Housing;
- Public Services;
- Recreation;
- Transportation;
- Tribal Cultural Resources; and
- Utilities and Service Systems.

The City has determined that the project would result in no impact to the following topical areas as substantiated in Chapter 8, *Impacts Found Not to Be Significant*:

- Agriculture and Forestry Resources;
- Biological Resources;
- Mineral Resources; and
- Wildfire.

2.4.2 Significant Unavoidable Adverse Impacts

This Draft EIR identifies significant and unavoidable adverse impacts, as defined by CEQA, that would result from implementation of the proposed project. Unavoidable adverse impacts may be considered significant on a project-specific basis, cumulatively significant, and/or potentially significant. The City must prepare a Statement of Overriding Considerations before it can approve the project, attesting that the decision-making body has balanced the benefits of the proposed project against its significant unavoidable environmental effects and has determined the benefits outweigh the adverse effects, and therefore the adverse effects are considered acceptable. The impacts found in the Draft EIR to be significant and unavoidable are in the following areas:

- Air Quality;
- Greenhouse Gas Emissions; and
- Transportation.

2.5 INCORPORATION BY REFERENCE

Several documents are incorporated by reference into this Draft EIR, consistent with Section 15150 of the CEQA Guidelines, and are available for review at the City of Costa Mesa, Development Services Department, 77 Fair Drive, Costa Mesa, California 92626.

- City of Costa Mesa, *2015–2035 General Plan*, 2016.

- City of Costa Mesa, *Final Environmental Impact Report for the 2015–2035 General Plan*, State Clearinghouse No. 2015111053, prepared by MIG, Inc., June 26, 2016.
- City of Costa Mesa, *Costa Mesa Municipal Code*, current through Ordinance 9-12 and the July 2019 code supplement, updated July 2019.

2.6 PUBLIC REVIEW OF THE DRAFT EIR

This Draft EIR is being circulated for a 45-day public review period. Interested agencies and members of the public are invited to provide written comments on the Draft EIR to:

City of Costa Mesa
77 Fair Drive
Costa Mesa, California 92626
Attn: Minoo Ashabi, AIA, Principal Planner
OMWPublicComments@costamesaca.gov

Upon completion of the 45-day public review period, the City will review all written comment letters received and prepare written responses for each comment letter. A Final EIR will incorporate the received comment letters, respond to each of the comment letters received, as well as incorporate any changes to the Draft EIR that result from comments. The Final EIR will be presented to the City for certification as the environmental document for the project. All persons who comment on the Draft EIR will be notified of the availability of the Final EIR and the date of the public hearing before the City.

The Draft EIR is available to the general public for review at the following locations:

- City of Costa Mesa, Development Services Department, 77 Fair Drive, Costa Mesa, California 92626;
- Mesa Verde Branch Library, 2969 Mesa Verde Drive East, Costa Mesa, California 92626; and
- City of Costa Mesa Website: https://www.costamesaca.gov/city-hall/city-departments/development-services/planning/environmental-notices-and-reports.

2.7 MITIGATION MONITORING

Public Resources Code Section 21081.6 requires that agencies adopt a monitoring or reporting program for any project for which it has made findings pursuant to Public Resources Code Section 21081. Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR.

The Mitigation Monitoring and Reporting Program for the One Metro West project will be completed as part of the Final EIR, prior to consideration of the project by the Costa Mesa City Council.

Chapter 3.0 Project Description

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3. Project Description

3.1 PURPOSE

Section 15124 of the CEQA Guidelines (14 California Code of Regulations Section 15124) requires a project description for an EIR to contain (1) the precise location and boundaries of a project site; (2) a statement of objectives sought by a project including the underlying purpose of the project; (3) a general description of a project's characteristics; and (4) a statement briefly describing the intended uses of the EIR, including a list of the agencies expected to use the EIR in decision making, a list of the permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by Federal, State, or local laws, regulations, or policies. An adequate project description need not be exhaustive but should supply the detail necessary for project evaluation.

3.2 PROJECT LOCATION

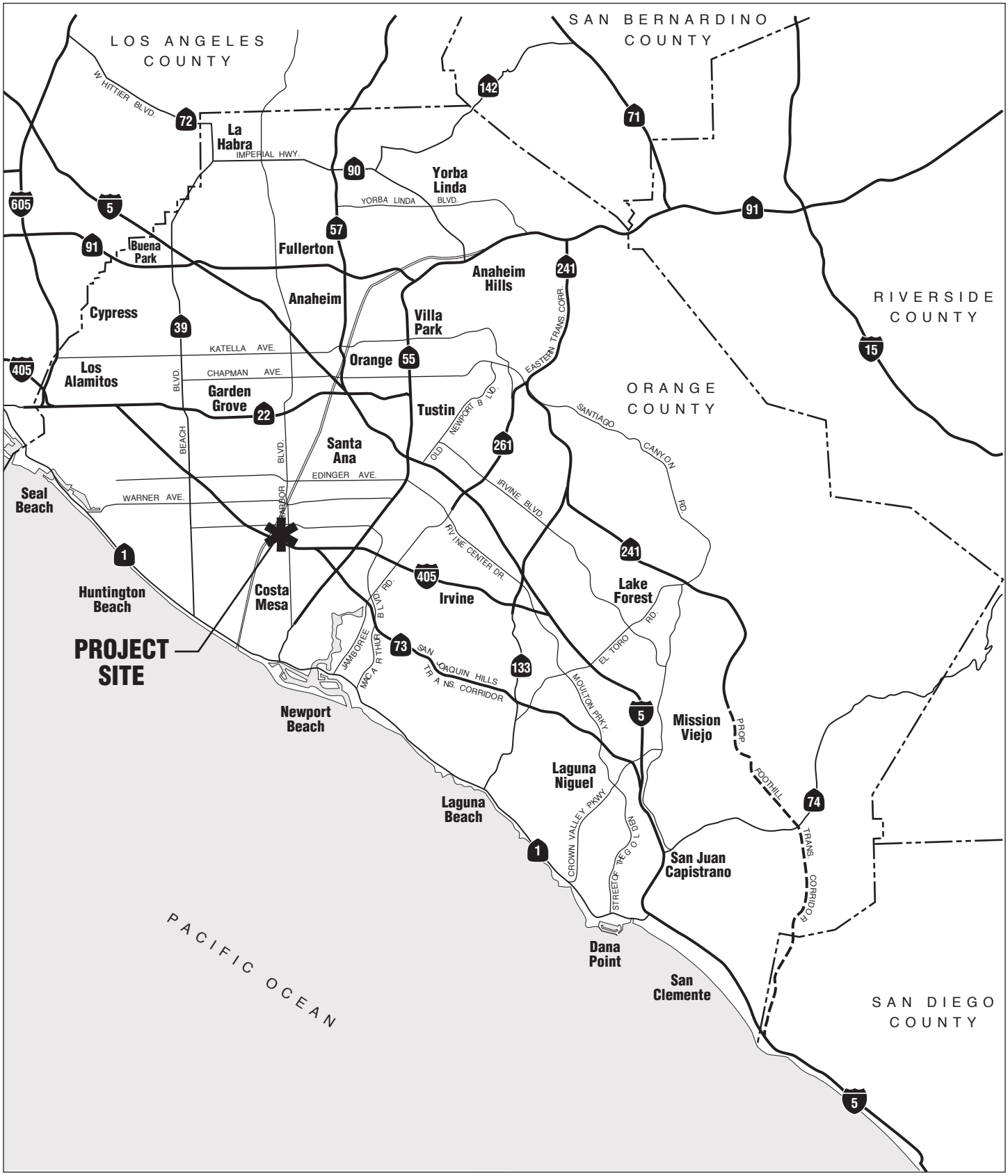
The 15.23-acre[1] project site is located at 1683 Sunflower Avenue in the City of Costa Mesa, Orange County (see Figure 3-1, *Regional Location*, and Figure 3-2, *Local Vicinity*). The City of Costa Mesa (City) is surrounded by the cities of Huntington Beach, Fountain Valley, Santa Ana, Irvine, and Newport Beach, as well as unincorporated Orange County. The site is bound by Sunflower Avenue to the north, the South Coast Collection (SOCO) retail center to the east, the Interstate 405 Freeway (I-405 Freeway; San Diego Freeway) to the south, and industrial and logistics uses to the west. The project site is currently occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dekra-Lite Industries, Inc. within an approximate 345,000-square foot one-story industrial building.

Regional access to the project site is provided by the I-405 Freeway, State Route 73 (SR-73; San Joaquin Hills Transportation Corridor), and State Route 55 (SR-55; Costa Mesa Freeway). Harbor Boulevard and Sunflower Avenue are the major roadways that provide local access to the site; Hyland Avenue and Cadillac Avenue extend perpendicularly from Sunflower Avenue to the east and west, respectively.

3.3 STATEMENT OF PROJECT OBJECTIVES

Pursuant to CEQA Guidelines Section 15124(b), the EIR project description must include "[a] statement of objectives sought by the proposed project…The statement of objectives should include the underlying purpose of the project." The proposed project objectives for One Metro West are to:

[1] The entire project site is 15.6 acres; however, approximately 0.37 acres along the southwest site boundary would be dedicated for the I-405 Freeway expansion. Therefore, the proposed development would occur on the remaining 15.23 acres.



NOT TO SCALE

Michael Baker INTERNATIONAL

01/20 JN 172326

ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Regional Location

Figure 3-1

Source: Google Earth Pro, 2019.

NOT TO SCALE

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ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Local Vicinity

Figure 3-2

1. Redevelop the project site with a mix of residential units and office and retail uses in a master-planned setting and in a manner that is fiscally neutral or fiscally positive for the City.

2. Increase the City's housing stock, including affordable housing opportunities, by providing multi-family residential housing in areas with adequate public utilities and services and in close proximity to major employment centers.

3. Provide enhanced recreation and open space opportunities and opportunities for specialty retail and entertainment uses to serve future residents and commercial office tenants.

4. Encourage alternative modes of travel through enhancing pedestrian and bicycle infrastructure and by bringing residents in closer proximity to existing and proposed resident-serving retail and adjacent employment centers.

5. Improve jobs-housing ratio and reduce vehicle miles traveled by placing housing in proximity to a major employment center in support of Statewide housing and transportation regulations (Senate Bill 375 and Senate Bill 743).

6. Incorporate sustainable development practices that address energy efficiency, support active transportation, and comply with green building code standards.

7. Enhance the visual attributes of the project site and surrounding area through implementation of a high quality design, creative facades, consistent development standards, and design guidelines for streetscape, landscape, site design, and signage.

3.4 PROJECT CHARACTERISTICS

"Project," as defined by the CEQA Guidelines, means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is any of the following: (1)…enactment and amendment of zoning ordinances, and the adoption and amendment of local general plans or elements thereof pursuant to Government Code Sections 65100–65700 (14 California Code of Regulations Section 15378[a]).

3.4.1 Description of the Project

The proposed project is a mixed-use development that consists of residential, specialty retail, creative office, and open space uses. The project would create a mixed-use community to provide housing near jobs in a master-planned setting with on-site amenities, a 1.5-acre open space, and connection to bicycle trails. The proposed site plan accommodates up to 1,057 multi-family residential rental units, 25,000 square feet of commercial (creative office) space, and 6,000 square feet of specialty retail use. Land uses proposed are shown on Figure 3-3, *One Metro West Land Use Plan*.

Figure 3-4, *Areas of Disturbance*, shows the on-site and potential off-site impact areas of the proposed project. In order to redevelop the site, the existing building, structures, parking areas, drive aisles, and hardscape

Source: Rose Equities, 2019.

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ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

One Metro West Land Use Plan

Figure 3-3

Source: Rose Equities, 2019.

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ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Areas of Disturbance

Figure 3-4

improvements would be demolished, and a number of mature ornamental trees and other landscape improvements throughout the site would be removed. As described in further detail below, the project would include off-site improvements to Sunflower Avenue and the bicycle trail connection from the project site west to the existing Santa Ana River Trail. Upgrades to Sunflower Avenue would include placing the existing Southern California Edison (SCE) 66-kilovolt utility lines underground and upgrading the sidewalk and public landscape areas with a new sidewalk and bicycle trail to improve pedestrian and bicycle access to the regional Santa Ana River Trail system.

The proposed project requires approval of a General Plan Amendment, Zone Change, Specific Plan, Master Plan, Development Agreement, Tentative Tract Map, Tree Removal Permit, and Public Art Plan.

On November 8, 2016, the citizens of Costa Mesa approved Measure Y, which is codified in Article 22, Chapter IX of Title 13, *Zoning*, of the *Costa Mesa Municipal Code* (Municipal Code). As relevant to this project, Measure Y requires, *inter alia*, that any proposed amendment or change to the City's General Plan or Zoning Code or adoption of a new specific plan that meets specific criteria, including the addition of over 40 residential units, be submitted to the voters at either a general or special election. Measure Y also contains several exceptions, two of which provide that the measure does not apply to the extent that it would violate state or federal laws or to affordable housing projects required by state or federal law.

3.4.1.1 GENERAL PLAN AMENDMENT

The Land Use Element would be amended to change the site's existing Industrial Park land use designation to High Density Residential with a site-specific base density of 80 dwelling units per acre and a site-specific maximum building height of seven stories. This would allow up to 1,057 multi-family residential units, 25,000 square feet of commercial (creative office) space, and 6,000 square feet of specialty retail uses, consistent with the maximum development potential proposed in the *One Metro West Specific Plan* (Specific Plan).

3.4.1.2 ZONE CHANGE

The proposed zone change would replace the site's current Industrial Park (MP) zoning district with Planned Development Residential – High Density (PDR-HD). According to Municipal Code Section 13-20, *Zoning Districts*, PDR-HD districts are intended for multi-family residential developments containing any type or mixture of housing units, either attached or detached, including but not limited to clustered development, townhouses, patio houses, detached houses, duplexes, garden apartments, high rise apartments, or common interest developments. Complementary non-residential uses could also be included in the planned development. As such, the proposed zoning district would allow a mix of residential and non-residential uses and site-specific development standards pursuant to the proposed Specific Plan.

3.4.1.3 ONE METRO WEST SPECIFIC PLAN

The proposed Specific Plan acts as a bridge between the General Plan and project development. When a specific plan is adopted, it replaces portions or all of the current zoning regulations for specified parcels within the specific plan area and establishes an independent set of zoning regulations that govern use and development of properties within the bounds of that specific plan. The Specific Plan would function as the regulatory

document for implementing zoning for the project site and a portion of Sunflower Avenue. The Specific Plan would establish the necessary land use plan, development standards, regulations, design guidelines, infrastructure systems, and implementation strategies on which subsequent, project-related development activities would be founded. Upon adoption of the Specific Plan, subsequent project-specific architectural plans, detailed site plans, grading and building permits, and any other actions requiring either ministerial or discretionary approvals would be required to demonstrate consistency with the Specific Plan.

Proposed Land Uses and Buildout

The Specific Plan allows for the development of three multi-family residential structures with up to 1,057 units, 6,000 square feet of specialty retail space, 25,000 square feet of commercial creative office space, open space, landscaping, streetscape improvements, and a Class-I bicycle trail system, as shown on Figure 3-3 and detailed in Table 3-1, *One Metro West Specific Plan Development Potential*.

Table 3-1 One Metro West Specific Plan Development Potential

Land Use	Development Potential
Residential	
Building A	449 units
Building B	379 units
Building C	229 units
Specialty Retail	6,000 square feet
Creative Office	25,000 square feet
Open Space	1.5 acres

Source: Rose Equities 2019.

Residential Community

The multi-family residential component would consist of up to 1,057 multi-family units within three buildings: Building A (six stories; 449 units), Building B (seven stories; 379 units), and Building C (seven stories; 229 units). The unit breakdown would consist of 132 studio units (12 percent), 481 one-bedroom units (46 percent), 406 two-bedroom units (38 percent), and 38 three-bedroom units (4 percent); refer to Table 3-2, *Residential Unit Breakdown*. The applicant is proposing to provide, at a minimum, 105 of the units as affordable housing units.

Table 3-2 Residential Unit Breakdown

Unit Type	Area (square feet)	Building A	Building B	Building C	Total
Studio 1	618	54	47	31	132
1 Bedroom A	745	61	66	77	204
1 Bedroom B	812	0	5	0	5
1 Bedroom C	820	148	110	14	272
2 Bedroom A	1,150	145	106	69	320
2 Bedroom B	1,170	12	9	13	34
2 Bedroom C	1,184	16	22	14	52
3 Bedroom A	1,526	13	14	0	27
3 Bedroom B	1,370	0	0	11	11
TOTAL		**449**	**379**	**229**	**1,057**

Source: Rose Equities 2019.

The residential buildings would also include approximately 54,500 square feet of indoor amenities exclusively for residents. These amenities may include a business center with meeting rooms; co-working space; a fitness center and wellness room; a club house/community room with a bowling alley, coffee bar, high-tech gaming center, and kitchen/dining facilities; a lobby and leasing area; and resort-style, saltwater swimming pools (one Junior Olympic size) with spas and cabana areas. The project would also include multiple courtyards and rooftop amenity terraces, community/art exhibit spaces, and solar panels on south-facing roofs.

Specialty Retail

The retail component of the project includes 6,000 square feet of specialty retail, focused primarily on tenant-serving service uses. Such uses may include a small boutique grocery, dry cleaners, and other service businesses. The commercial uses would be located on the ground floor of Building C, facing Sunflower Avenue.

Creative Office

The proposed creative office building would occupy a three-story, 25,000-square foot building with at-grade parking. Permitted uses within the creative office space component include professional services, such as advertising, business management, engineering, landscape architecture, and other service uses.

Open Space

The project proposes a 1.5-acre open space with seating and resting areas with creative landscaping/art pieces and shade structures. The applicant is proposing the open space area be privately maintained but available to the general public through the dedication of a public access easement. The open space would also be accessible to pedestrians from nearby employment centers, such as Vans, AAA, The Press, and SOCO, and by bicyclists via a connection to the Santa Ana River Trail. A 1,500-square foot community room would be integrated in Building B, accessible from the open space, and available for public and private events subject to the requirements of a Development Agreement with the City.

Development Standards and Design Guidelines

Section 3, *Development Standards and Design Guidelines*, of the Specific Plan includes development standards and design guidelines to guide the physical components of the proposed project. They are intended to provide for flexible and creative design solutions and produce a community that is consistent with the goals, policies, and regulations of the General Plan and Specific Plan. Table 3-3, *Permitted and Conditionally Permitted Uses*, details permitted and conditionally permitted land uses within the Specific Plan area.

Table 3-3 Permitted and Conditionally Permitted Uses

Use	Permitted	Conditionally Permitted
General		
Mixed-Use Developments	X	
Home Occupations that do not involve more than one customer/client at a time	X	
Public Events, including City-sponsored events, in conjunction with open space area	X	
Temporary Real Estate and Construction Offices	X	
Community Clubs (for residents only)	X	
Civic Clubs (for residents and public use)	X	
Off-Street Parking Areas and Structures	X	

3. Project Description

Table 3-3 Permitted and Conditionally Permitted Uses, continued

Use	Permitted	Conditionally Permitted
Bowling Alley (for residents only)	X	
Physical Fitness Facility (for residents only)	X	
Food Trucks		MC
Residential		
Multi-Family Residences	X	
General Offices/Professional Offices		
Administrative	X	
Advertising Agency	X	
Attorney	X	
Business Management/Consultant	X	
Detective Agency	X	
Economist	X	
Employment Agency	X	
Engineer and Surveyor	X	
Insurance Broker	X	
Landscape Architect	X	
Psychologist	X	
Public Accountant	X	
Public Relations Consultant	X	
Real Estate Broker	X	
Service Offices (e.g., bookkeeping and data processing)	X	
Commercial		
Antique Store	X	
Art Shop/Gallery	X	
Artist Studio	X	
Bakery (Retail)	X	
Barbershop	X	
Beauty Shop	X	
Bicycle Shop	X	
Specialty Grocery Store and/or Neighborhood Bar		MC
Bookstore	X	
Clothing/Apparel Store	X	
Coffeehouse		MC
Commercial Art/Graphic Design	X	
Convenience Store	X	
Dry Cleaner		MC
Florist Shop/Flower Stand	X	
Ice Cream/Frozen Yogurt Shop (with more than 300 square feet of public area)		MC
Jewelry Store	X	
Outdoor Dining (within Commercial area of project site only)		MC
Pet Shop		MC
Photographer Studio	X	
Tailor Shop	X	
Recreational		
Playground	X	
Small Performance Area (in conjunction with open space area)	X	

Source: Rose Equities 2019.
MC = Minor Conditional Use Permit; uses listed under Conditionally Permitted subject to MCUP review process.

In addition, Table 3-4, *General Development Standards*, provides setback, building height, parking, and amenity development standards for the proposed residential and non-residential uses.

Table 3-4 General Development Standards

Building Setbacks	
Perimeter	
Sunflower Avenue	10 feet
I-405 Freeway (Residential Building)	10 feet
I-405 Freeway (Creative Office Building)	5 feet
East Property Line (adjacent to SOCO)	10 feet
West Property Line	10 feet
Internal	
Center Line of Fire Lanes (Residential)	10 feet
Creative Office/Open Space	0 feet
Maximum Building Heights	
Residential Buildings	7 stories (98 feet)
Creative Office Building	3 stories (52 feet)
Parking	
Residential	1.30 spaces per unit / 0.89 spaces per bedroom
Non-Residential	4 spaces per 1,000 square feet
Amenities	
Minimum Indoor Amenities (Entire Site)	54,500 square feet
Minimum Outdoor Amenities (Entire Site)	32,800 square feet

Source: Rose Equities 2019.

Development standards and design guidelines are also provided for several other project components, including pedestrian connectivity; parking; walls; lighting; signage; residential, commercial, and office uses; Sunflower Avenue; applicable noise standards; open space; and public art, among others; refer to Specific Plan Section 3, *Development Standards and Design Guidelines*.

Landscaping

As shown on Figure 3-5, *Conceptual Landscape Plan*, landscaping would be planted along the site perimeter, throughout the residential portion of the Specific Plan area, and within and adjacent to the open space area. Project landscaping would cover approximately ten percent of the project site. Extensive landscaping would be incorporated in the project frontage along Sunflower Avenue and in the westerly portion of the site to enhance the open space area and improve the connection to the Santa Ana River Trail. In addition, the project interior would have landscaped "nodes" to enhance the overall visual experience. California native or drought-tolerant and architecturally thematic plant material would be utilized to emphasize entry monuments, signage, walls, and hardscape elements. Specific landscape design guidelines are detailed in the Specific Plan. Generally, landscaping should be used to define building entrances, key activity hubs, and street edges; screen service areas, trash enclosures, and mechanical equipment; soften structural appearances; distinguish between public and private spaces; create focal points and architectural highlights; delineate on-site vehicular circulation; and protect users from excessive sun, glare, wind, noise, dust, and undesirable views.

Lighting

Project lighting would be installed to illuminate pathways, stairways, entrances and exits, parking areas, mailbox areas, children's play areas, recreation areas, pools, dumpster areas, and other locations required by the City to meet minimum safety requirements. A lighting plan is provided in the One Metro West Master Plan (Master

Source: Rose Equities, 2020

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Conceptual Landscape Plan

Figure 3-5

Plan), which illustrates potential light pole locations throughout the site. Light poles are proposed along the site perimeter, between the proposed buildings, and around the open space area.

All lighting on-site would be shielded and directed downward to avoid impacting adjacent uses. Project lighting adjacent to the I-405 Freeway would be low-glare in intensity to avoid impacting drivers along the I-405 Freeway as well as residential uses south of the I-405 Freeway. Any project lighting along the I-405 Freeway would be subject to consistency with the California Department of Transportation (Caltrans) standards. Specific lighting design standards and crime prevention through environmental design techniques are provided in the Specific Plan.

Public Art

The Specific Plan would allow for installation of public art within the proposed open space area and on major building walls within the development. The project would be required to prepare a public art plan to enhance long building walls on the project site, particularly the wall adjacent to the I-405 Freeway. Low-intensity illuminated wall art would be allowed subject to a separate review process and standards. Illumination may be static, up-lighted, or back-lighted and/or seasonal themes. The Specific Plan includes development standards and details regarding the required review process to ensure future artwork on the building wall adjacent to the I-405 Freeway does not adversely impact motorists traveling on the I-405 Freeway.

Additionally, the Master Plan includes a public and private open space art plan detailing potential locations for public and private art installations. As shown, private art installations may be located in areas between Buildings A, B, and C, and public art installations may be located throughout the open space area.

Transportation Improvements and Parking

On-Site Improvements

Vehicular access to the project site would be via three points off Sunflower Avenue. The main entry would be at the terminus of Sunflower Avenue near Cadillac Avenue on the western end of the project site; a central entry would be near the middle of the site from Sunflower Avenue; and an east entry would be on the eastern end of the project site adjacent to SOCO. All three driveways would connect to the project's internal roadways.

An active transportation hub, adjacent to the proposed open space area and Santa Ana River Trail connection, would be provided to encourage alternative modes of transportation. The active transportation hub may include amenities, such as bicycle lockers, bicycle storage, and bicycle repair facilities, and may host community-wide bicycle-share programs and events. Shared off-site bicycle or electric scooter programs, if proposed in the future, would be subject to separate City review and approval.

Off-Site Improvements

As part of project improvements, Sunflower Avenue from Cadillac Avenue to Hyland Avenue would be improved with bicycle paths, new sidewalks, street parking, and landscape medians to enhance the neighborhood from an industrial setting to a mixed-use residential area. Cadillac Avenue and Sunflower Avenue provide vehicular, pedestrian, and emergency service access to the surrounding area. The existing rights-of-way,

low traffic volumes, and street infrastructure provide an opportunity for the project to implement complete street design to enhance safe access and mobility for all users.

As such, the proposed project would include the following improvements to Sunflower Avenue from Cadillac Avenue to Hyland Avenue:

- Narrow Sunflower Avenue from a four-lane roadway to a three-lane roadway with one travel lane in each direction with a center striped left turn lane;
- Add a six-foot sidewalk, eight-foot parkway, seven-foot bike lane, seven-foot landscaped median, and seven-foot parallel parking lane on the southern side of Sunflower Avenue adjacent to the project site;
- Add a six-foot bike lane and two-foot striped buffer median on the northern side of Sunflower Avenue; and
- Underground existing SCE poles and utility lines (only along the project frontage; although it may extend as far as Hyland Avenue, subject to coordination with the adjacent property owner).

Proposed improvements to Sunflower Avenue are shown on Figure 3-6, *Sunflower Avenue Improvements*. The proposed improvements would also connect the new complete street section along the southern side of Sunflower Avenue with a new landscaped bicycle trail proposed along the southern side of the open space area; refer to Figure 3-4. This off-site improvement would include trail resurfacing and landscaping and would occur along the southwest portion of the project site westward to the utility easement before the Santa Ana River channel. Improvements to Sunflower Avenue may extend to Hyland Avenue and encompass the Sunflower Avenue/Hyland Avenue intersection. The project would also result in the retrofitting of existing traffic signals to include emergency vehicle preemption along major response corridors as required by the City.

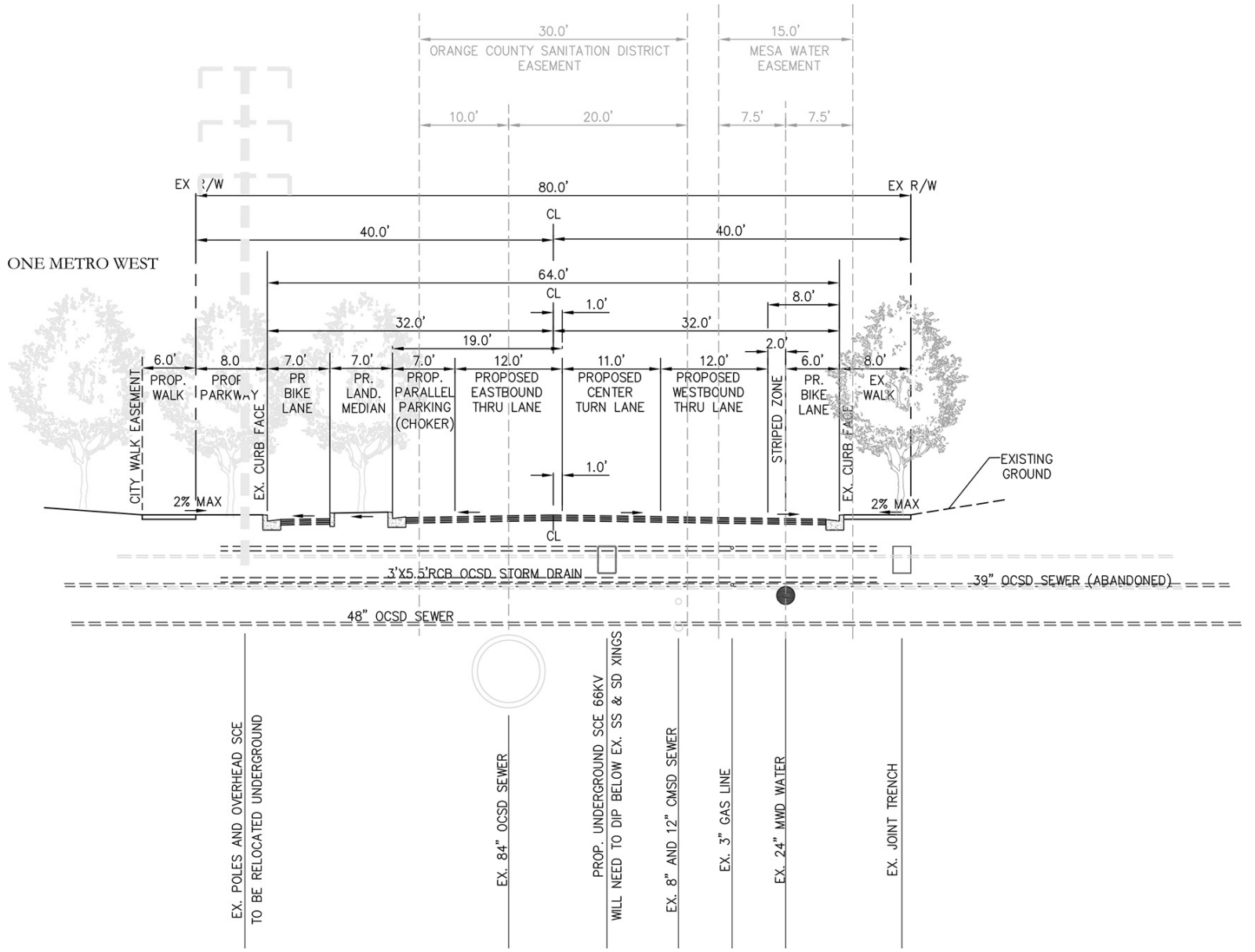
Parking

The Specific Plan establishes parking standards for the proposed project and would provide a total of 1,914 spaces; refer to Table 3-5, *Proposed Parking Plan*.

Each parking area on the project site would contain electric vehicle charging stations (approximately six percent of total parking spaces) as required by the California Building Code Standards and California Green Building Standards Code. An on-street parallel parking lane would also be provided along the southern side of Sunflower Avenue as part of the off-site transportation improvements.

On-Site Infrastructure Improvements

All proposed infrastructure improvements would be located on-site (except powerline undergrounding) with some lateral connections to connect to existing water, sewer, storm drain, and dry utility facilities in Sunflower Avenue. It is acknowledged that the project would underground powerlines along Sunflower at the project's frontage; however, it is acknowledged that the project could continue the undergrounding further, to Hyland Avenue, depending upon agreement from adjoining property owners.



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Sunflower Avenue Improvements

Figure 3-6

3. Project Description

Table 3-5 Proposed Parking Plan

Area	Buildout	Parking Ratio[1]	Parking Demand	Parking Supply
Building A				
Dwelling Units	449	1.3 per dwelling units	584	
Bedrooms	648	0.89 per bedroom	577	
Office[2]	25,000 SF	4.0 per 1,000 SF	100	
Total Building A			*684*	*825*
Building B				
Dwelling Units	379	1.3 per dwelling units	493	
Bedrooms	544	0.89 per bedroom	484	
Total Building B			*493*	*668*
Building C				
Dwelling Units	229	1.3 per dwelling units	298	
Bedrooms	347	0.89 per bedroom	309	
Retail	6,000 SF	4.0 per 1,000 SF	24	
Total Building C			*333*	*421*
Total Entire Site			**1,510**	**1,914**

Source: LSA 2019e.
Notes: SF = square feet; Bold indicates the higher calculation and the parking demand to be accommodated.
1 Per the parking study completed by LSA, the proposed parking rate is 0.89 per bedroom or 1.3 spaces per dwelling unit, whichever is greater.
2 Building A parking structure would dedicate 35 parking spaces for the office building. The remaining required parking spaces for the office building will be shared with the residential in Building A parking structure at the ground level.

Domestic Water

Existing and proposed domestic water systems are shown on Figure 3-7, *Infrastructure Improvements – Domestic Water*. The proposed project is served by an existing Mesa Water District (MWD) domestic water line in Sunflower Avenue. There is an existing 24-inch domestic water line in Sunflower Avenue located six feet south of the northerly curb, and there is an existing 18-inch domestic water line in Cadillac Avenue located six feet west of the easterly curb. These MWD water lines currently provide domestic water service and fire flow to the project site.

The existing water infrastructure would have adequate pressure and flow to provide domestic and fire flow to the proposed project. Domestic water and fire service would be provided from connections to the existing 24-inch water line in Sunflower Avenue as well as by a proposed on-site water loop system. There is also potential for a looped point of connection to an existing water line serving SOCO near the northeast corner of the site.

Sanitary Sewer

Existing and proposed sanitary sewer systems are shown on Figure 3-8, *Infrastructure Improvements – Sanitary Sewer*. The proposed project is served by an existing Costa Mesa Sanitary District sewer system in Sunflower Avenue, including the following existing sewer lines:

- Existing eight- and 12-inch vitrified concrete pipe sanitary sewer lines in Sunflower Avenue (18 feet south of the northerly curb), which collect and convey sewer flows to an existing 84-inch Orange County Sanitation District (OCSD) mainline sewer that runs from east to west in Sunflower Avenue located 27 feet north of the southerly curb;
- Two existing six-inch sewer laterals from sewer lines in Sunflower Avenue;

- An existing 12-inch sewer stub from an existing manhole connection to the 84-inch OCSD mainline sewer to the south; and
- An existing 48-inch OCSD sanitary sewer line that flows diagonally through the site (via an easement) from the Cadillac Avenue and Sunflower Avenue intersection to approximately the midpoint of the site's westerly property line.

The project proposes an on-site sanitary sewer system comprised of public and private sewer components. The proposed sewer system would connect to the existing 12-inch sewer stub on the south side of the OCSD manhole in Sunflower Avenue. This would be a public connection that extends the sewer to the project site. OCSD would ultimately determine the extent of the sewer within the public right-of-way for Sunflower Avenue as public or private sewer. The remainder of the on-site sewer system would be private from this determined point of connection outside the public right-of-way. Final sewer connection locations, hydraulics, and capacities would be confirmed during the construction plan review process, including the preparation of the project's sewer improvement plans, and would require approval by OCSD and Costa Mesa Sanitary District.

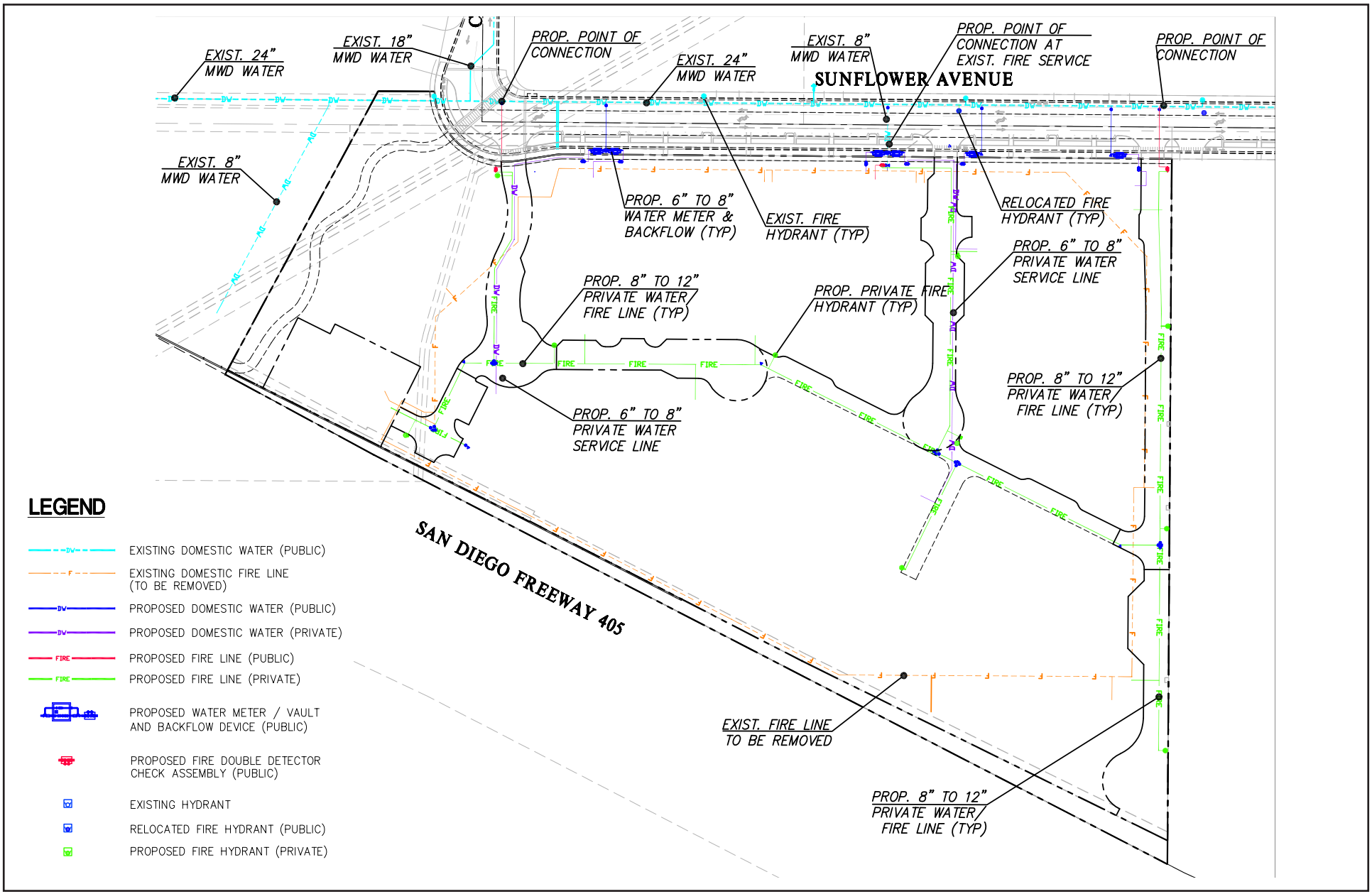
Storm Drain

Existing and proposed stormwater systems are illustrated on Figure 3-9, *Infrastructure Improvements – Storm Drain*. Project implementation is not anticipated to alter existing site hydrology and infrastructure hydraulics. Similar to existing conditions, on-site proposed storm drains would connect to an existing 66-inch storm drain line flowing north/south through the project site and an existing 18- to 24-inch line along the eastern project boundary. The existing 66-inch storm drain, owned and maintained by the City of Costa Mesa, runs from Sunflower Avenue to the I-405 Freeway through the western portion of the site and would convey stormwater from the western portion of the site after treatment in proposed biotreatment units. The existing 18- to 24-inch storm drain would be used to convey stormwater flows from the eastern portion of the site after treatment in the biotreatment units. The project would require approval from Caltrans to maintain the existing storm drain connection along the eastern project boundary.

Dry Utilities

As stated, the proposed project would include major upgrades to Sunflower Avenue, including undergrounding existing SCE pole lines along the project frontage. The SCE utility improvement would be coordinated closely between the City and SCE's Right of Way and Environmental Departments to ensure the project complies with all California Public Utilities Commission procedures for such relocations and/or underground conversions.

Southern California Gas Company would continue to provide natural gas services to the project site. In addition, existing telephone and cable television utility connections on-site would be utilized by the project. Refer to Figure 3-10, *Infrastructure Improvements – Dry Utilities*, for an illustration of existing and proposed dry utility infrastructure.



Source: Rose Equities, 2019.

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Infrastructure Improvements – Domestic Water

Figure 3-7

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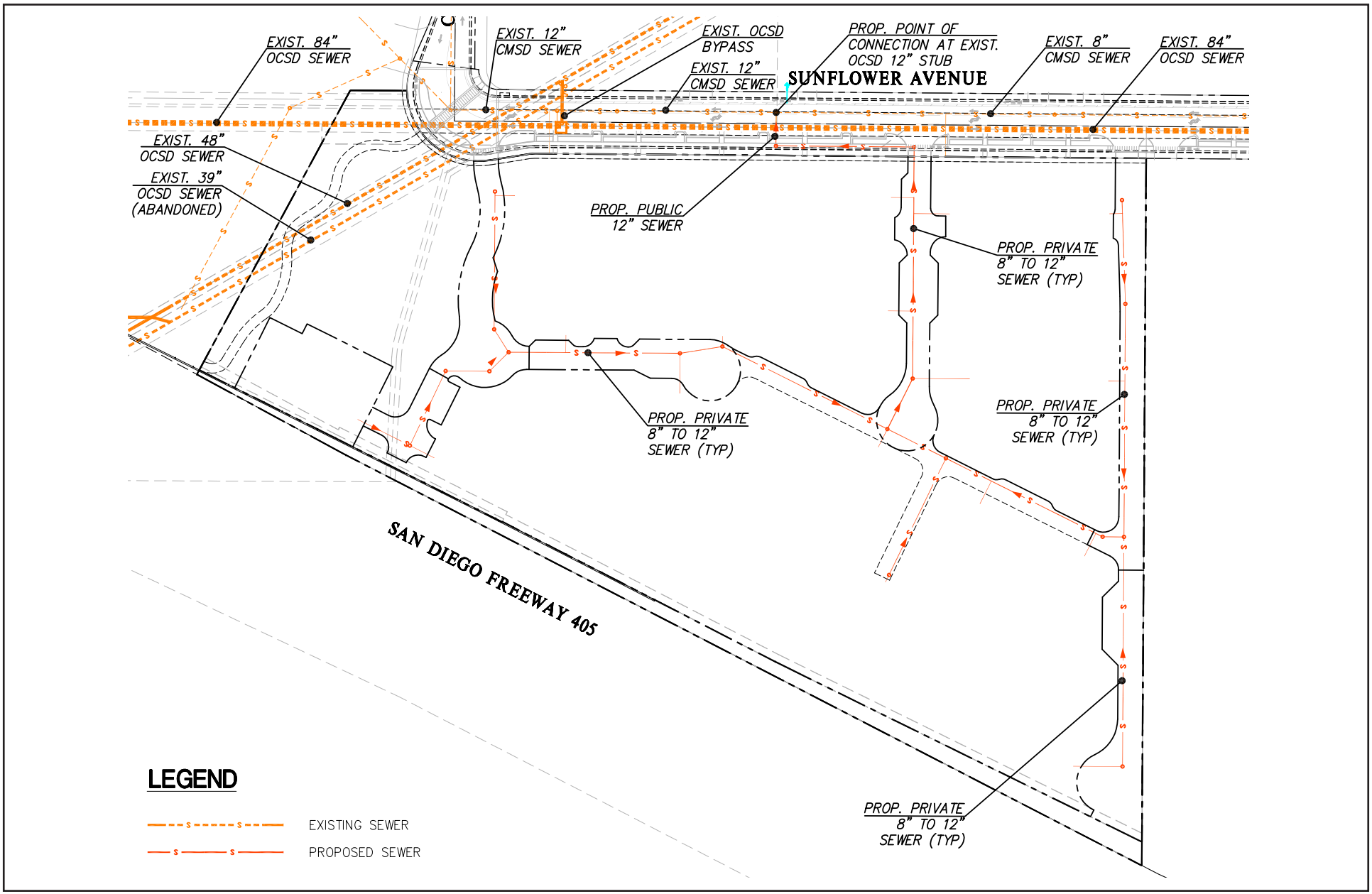

Source: Rose Equities, 2019.

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Infrastructure Improvements – Sanitary Sewer

Figure 3-8

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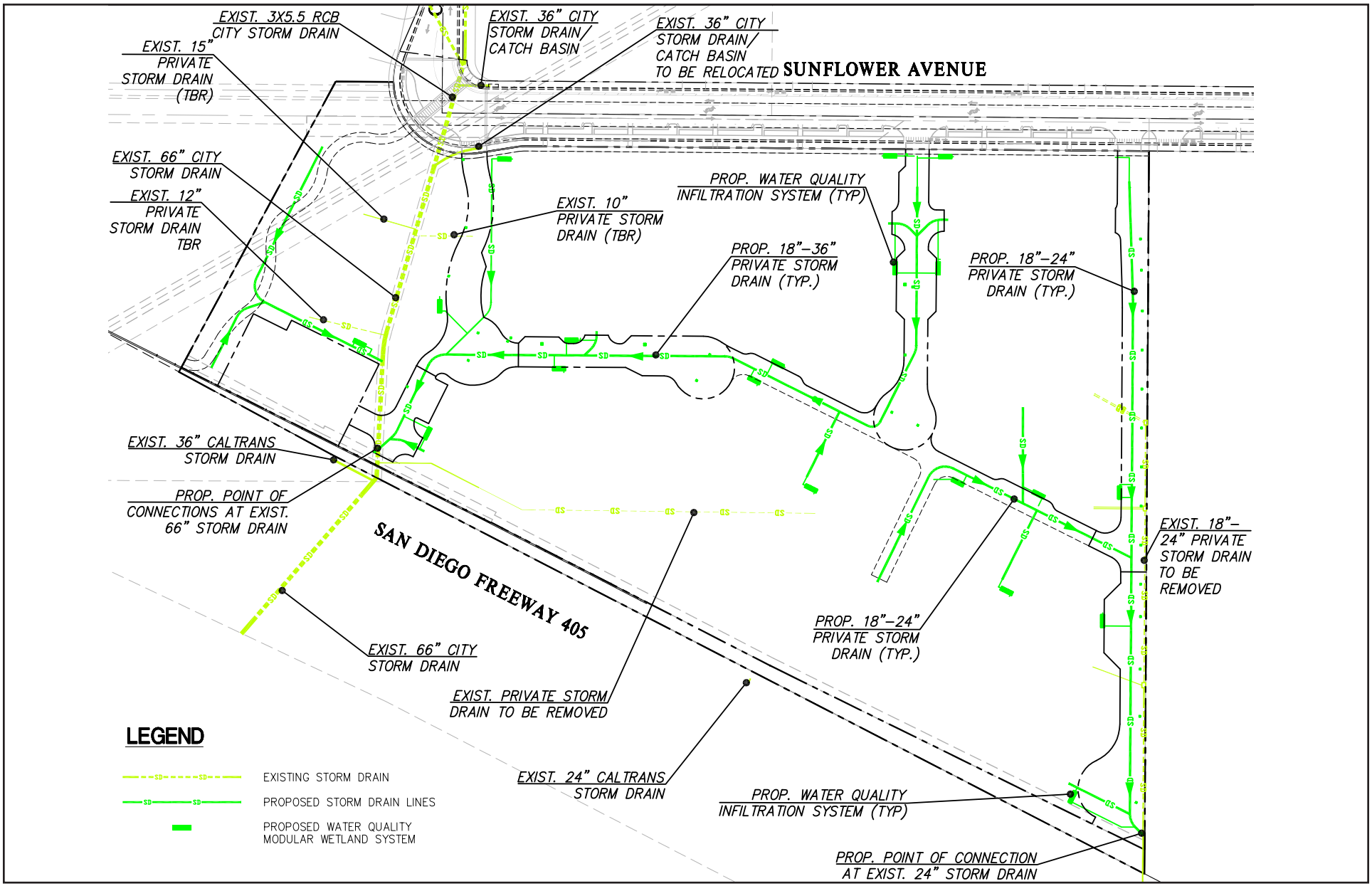

Source: Rose Equities, 2019.

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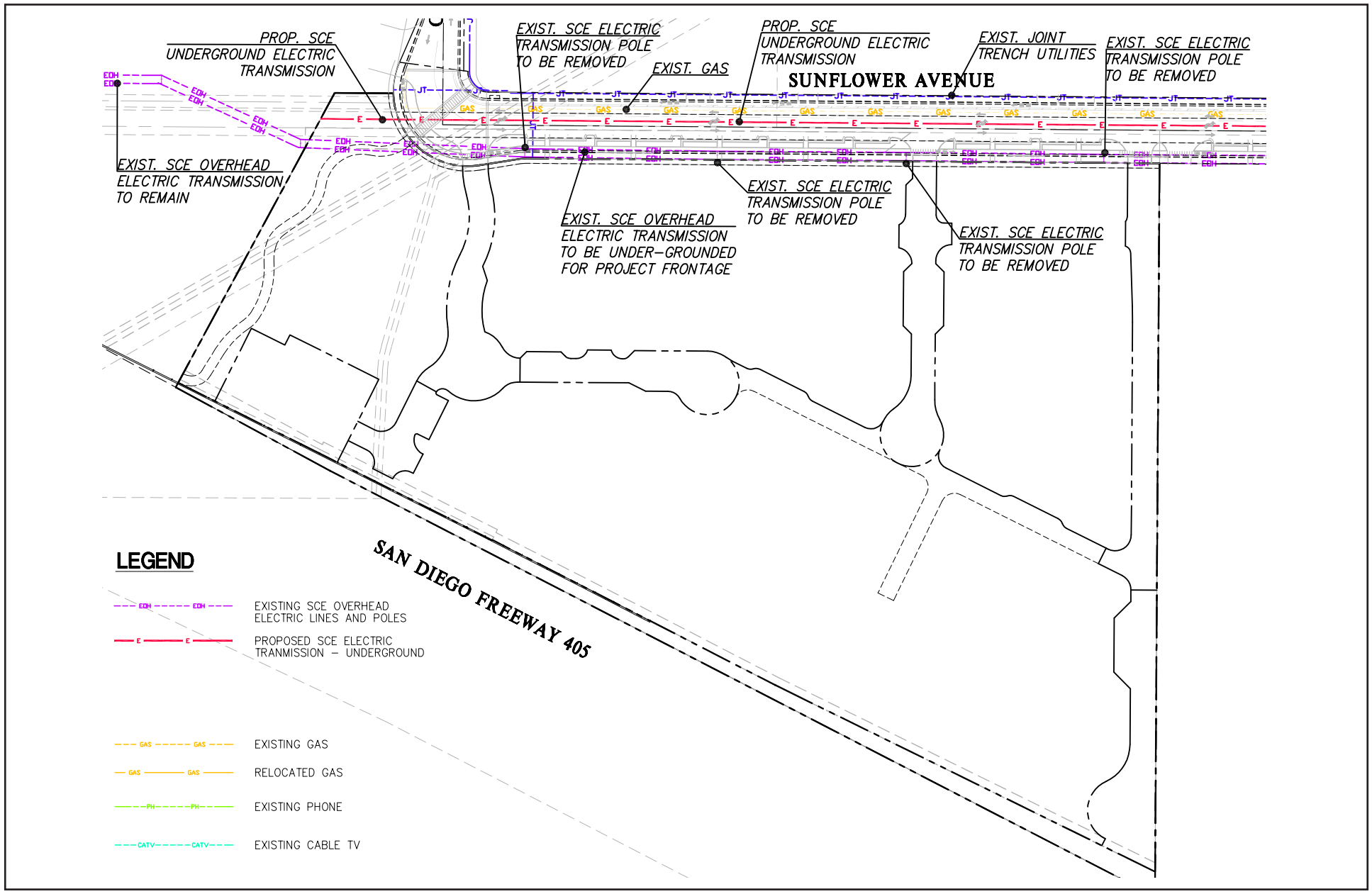
Infrastructure Improvements – Storm Drain

Figure 3-9



Source: Rose Equities, 2019.

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Infrastructure Improvements – Dry Utilities

Figure 3-10

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3.4.1.4 MASTER PLAN

The City adopts specific plans to act as the zoning for a site and to outline the allowed land uses, development standards, and general design guidelines. Master plans are provided to implement the specific plan and detail the specific architecture, landscape architecture, and civil engineering attributes of a project. As such, specific plans and master plans in the City are typically processed and approved concurrently.

The *One Metro West Master Plan* (Master Plan) serves as a precise plan of development for the project site and includes schematic designs of the various project components (e.g., residential, commercial, office, public and private open space, pedestrian and vehicular access and pathways, trails, public art, and Sunflower Avenue improvements). In addition, the Master Plan provides more details regarding the project's structural setbacks and distances between buildings; required right-of-way dedications and easements; property lines and dimensions; pedestrian access and circulation; landscape and open space areas; floor plans; roof plans; conceptual landscape plan; and renderings/streetscape views, among others. Overall, the Master Plan depicts the development plans that implement the Specific Plan's development standards and design guidelines. A description of the proposed buildings is provided below.

Building A

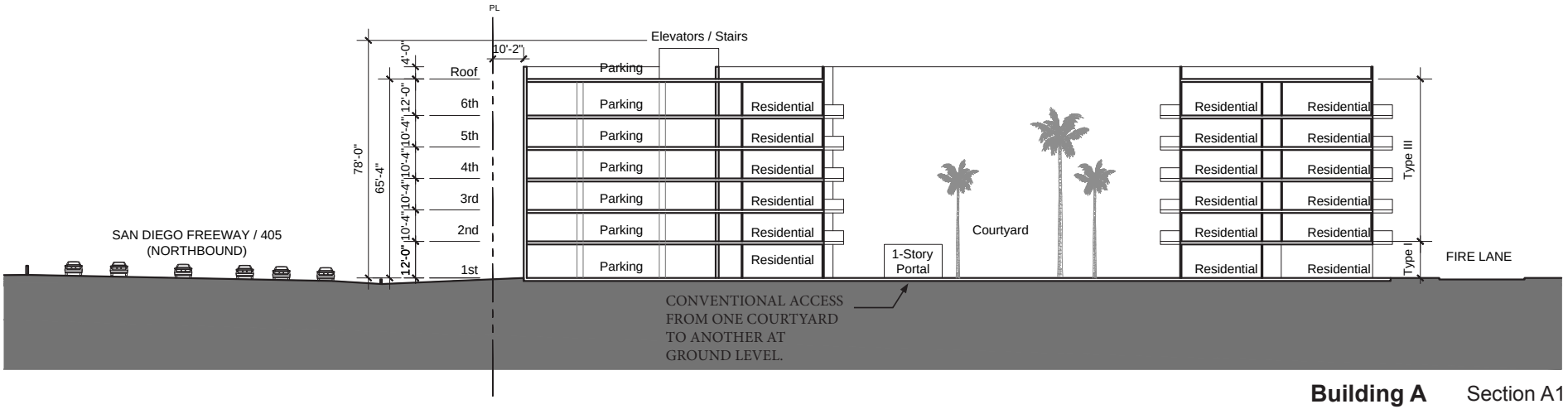
As shown on Figure 3-3, Building A is proposed along the southern half of the project site adjacent to the I-405 Freeway and would be six stories with a maximum height of 78 feet. Building elevations are shown on Figure 3-11a, *Building A Elevations*. The approximately 969,660-square foot building would consist of 449 residential units and amenities, including a leasing office, lobby, fitness center, ground-level internal courtyards, swimming pools and spa, and amenity terraces on the upper levels. In total, Building A would provide 35,000 square feet of indoor amenities and 4,000 square feet of outdoor amenities. Approximately 825 parking spaces would be provided at Building A.

Building B

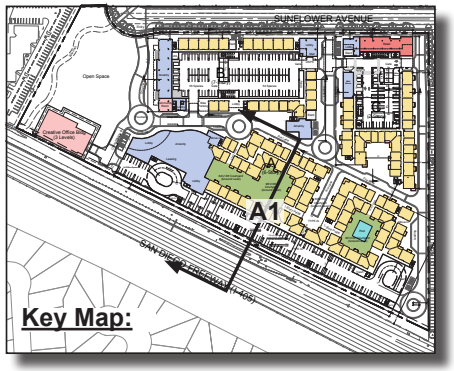
Building B would be located in the central portion of the project site adjacent to Sunflower Avenue and would be a seven-story building with a maximum height of 88 feet; refer to Figure 3-3 and Figure 3-11b, *Building B Elevations*. The approximately 549,880-square foot building would include 379 residential units, lobbies, a community room, a bowling facility, bicycle parking, internal courtyards, a lounge, pool and spa, and amenity terraces on the upper levels. Building B would provide approximately 19,500 square feet of indoor amenities and 10,800 square feet of outdoor amenities. Approximately 668 parking spaces would be provided by three parking levels (one ground level and two subterranean).

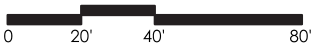
Building C

As shown on Figure 3-3, Building C is proposed along the eastern portion of the project site adjacent to SOCO with a maximum building height of 98 feet. The seven-story building would consist of 229 residential units, 6,000 square feet of ground-level specialty retail, a lobby, and an 18,000-square foot amenity rooftop with a swimming pool and recreational structures; refer to Figure 3-11c, *Building C Elevations*. A total of 421 parking spaces would be provided at Building C.



Building A Section A1





Source: Rose Equities, 2019.

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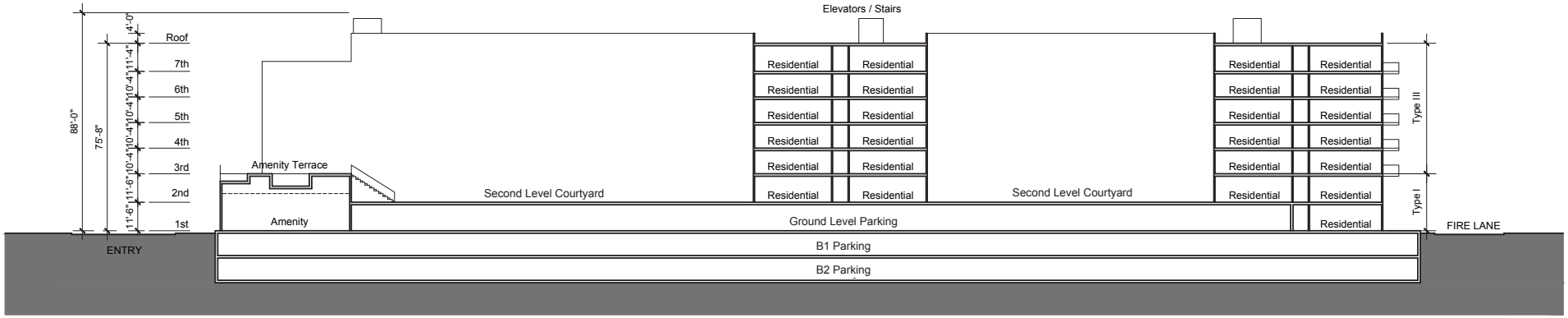
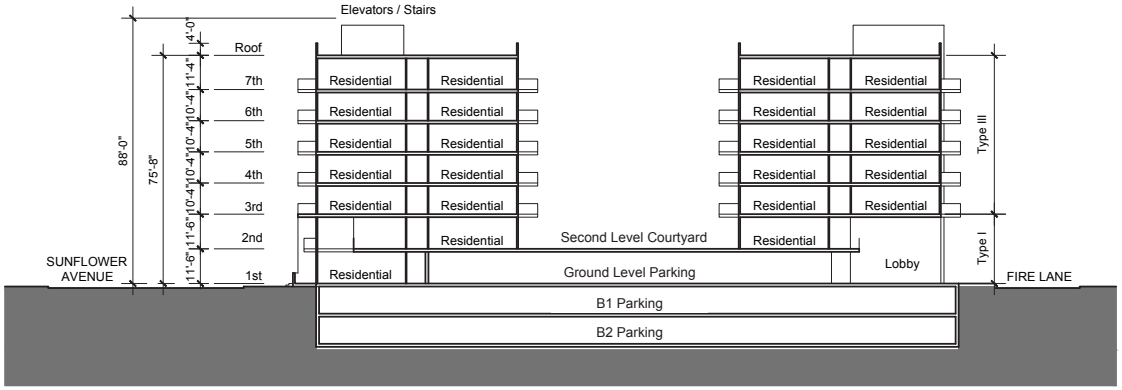
Building A Elevations

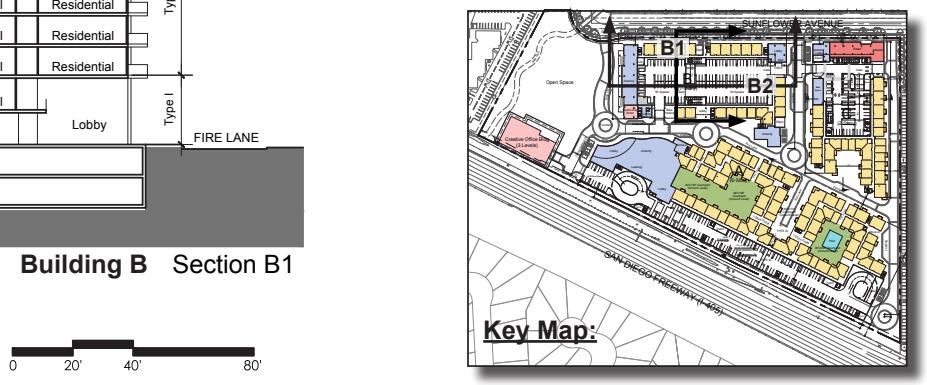
Figure 3-11a



Building B Section B2



Building B Section B1



0 20' 40' 80'

Source: Rose Equities, 2019.

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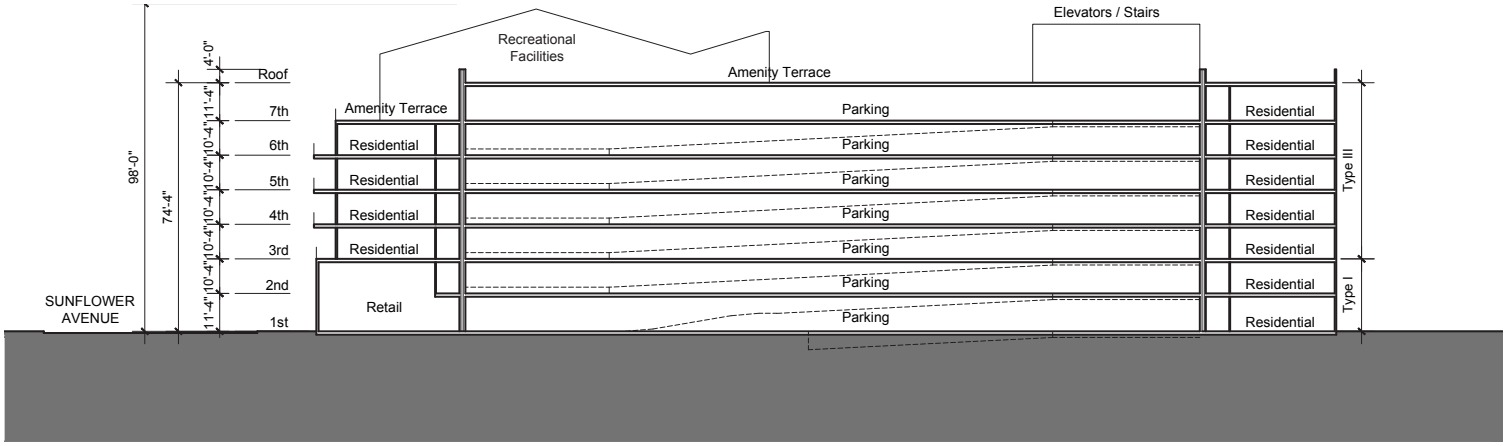
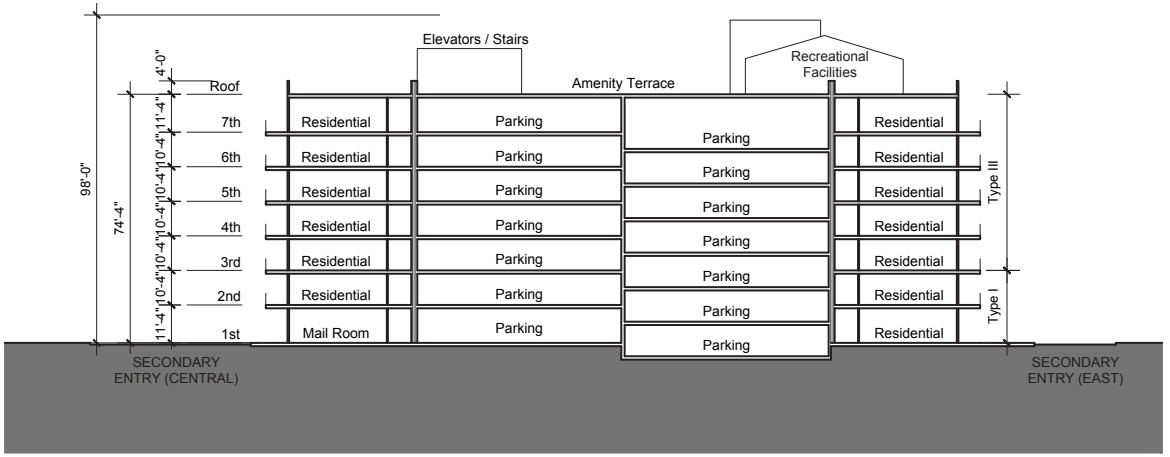
Building B Elevations

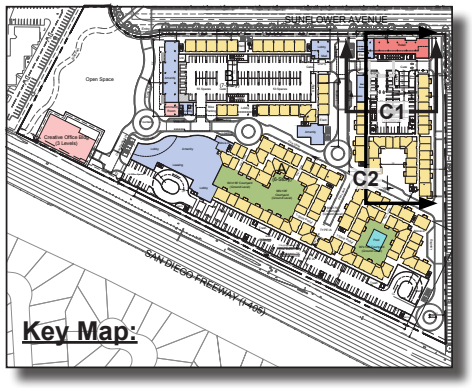
Figure 3-11b



Building C Section C2



Building C Section C1



0 20' 40' 80'

Source: Rose Equities, 2019.

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Building C Elevations

Figure 3-11c

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Creative Office Building

The 25,000-square foot creative office building is proposed in the westernmost corner of the project site, adjacent to the I-405 Freeway and south of the proposed open space. The three-story creative office building would have a maximum building height of 52 feet and utilize shared parking spaces within Building A.

According to the Master Plan, a six-foot block wall with vines would be constructed along the eastern project boundary adjacent to SOCO and an approximately 12-foot block sound wall would be constructed along the project edge facing the I-405 Freeway. The location, material, and design of the sound wall would be determined with construction documents and may be incorporated into the building structures as feasible. The conceptual open space plan, conceptual private open space plan, fence and wall plan, public and private open space art plan, and lighting plan are also included in the Master Plan.

3.4.1.5 DEVELOPMENT AGREEMENT

The proposed project includes a Development Agreement between the project applicant and the City pursuant to California Government Code Sections 65864 et seq. Physical improvements identified in the Development Agreement are identified and evaluated in this EIR.

3.4.1.6 TENTATIVE TRACT MAP

A tentative tract map is proposed to divide the site into five parcels and would be processed as a "Condominium" Map. Although a "Condominium" Map is proposed, the applicant intends for the product to be rental units and may choose not to exercise the map.

3.4.1.7 TREE REMOVAL PERMIT

The proposed project would require removal of six trees along the City's public right-of-way in order to implement the off-site improvements along Sunflower Avenue. A tree removal permit is required for the removal of any trees within the City's public right-of-way subject to review by the City's Parks, Arts, and Community Services Commission (PACS).

3.4.2 Project Construction Timeline

Construction is expected to commence in one phase, over a period of five years, from January 2022 to January 2027. Construction of the on-site buildings would likely occur in the following order: Building A and open space, Building B, Building C, then the creative office building. First occupancy is anticipated in 2025, with final construction completed by 2027.

Pursuant to Municipal Code Section 13-279, *Exceptions for Construction*, construction activities would occur within the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and between 9:00 a.m. and 6:00 p.m. on Saturdays. Construction is not permitted outside of these hours or on Sundays or Federal holidays unless a temporary waiver is granted by the City.

3.5 INTENDED USES OF THE EIR

This Draft EIR is a project-level EIR that examines the environmental impacts of the proposed project. This Draft EIR also addresses various actions by the City and others to adopt and implement the proposed project. It is the intent of this Draft EIR to evaluate the environmental impacts of the proposed project, thereby enabling the City, responsible agencies, and interested parties to make informed decisions with respect to the requested entitlements. The anticipated discretionary approvals (in addition to ministerial actions such as demolition permit, grading permit, building permits, certificates of occupancy, etc.) required for this project include, but are not limited to:

Agency	Action
City of Costa Mesa	▪ Certification of the EIR ▪ Approval of the General Plan Amendment ▪ Approval of the Zone Change ▪ Adoption of the Specific Plan ▪ Adoption of the Master Plan ▪ Approval of the Development Agreement ▪ Approval of the Tentative Tract Map ▪ Approval of Tree Removal Permit ▪ Approval of Public Art Plan
California Public Utilities Commission	▪ Approval of General Order 131D and Section 851 (Transfer or Encumbrance of Utility Property)
Orange County Flood Control District (OCFCD)	▪ Issuance of an Encroachment Permit within OCFCD right-of-way
Santa Ana Regional Water Quality Control Board	▪ Issuance of a National Pollution Discharge Elimination System (NPDES) Permit
Orange County Sanitation District	▪ Approval of proposed sewer improvements
Costa Mesa Sanitary District	▪ Approval of proposed sewer improvements
Orange County Airport Land Use Commission	▪ Determination of Consistency with Airport Environs Land Use Plan for John Wayne Airport
City of Fountain Valley	▪ Implementation of recommended Mitigation Measure T-2 regarding traffic improvements

3. Project Description

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Chapter 4.0 Environmental Setting

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4. Environmental Setting

4.1 INTRODUCTION

Pursuant to provisions of CEQA and the CEQA Guidelines, this section provides a "description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published,. . . from both a local and a regional perspective" (California Environmental Quality Act [CEQA] Guidelines Section 15125[a]). The environmental setting provides the baseline physical conditions from which the lead agency will determine the significance of environmental impacts resulting from the proposed project.

4.2 REGIONAL ENVIRONMENTAL SETTING

4.2.1 Regional Location

The project site is in the northwest corner of the City of Costa Mesa (City) in south-central Orange County. The City is surrounded by the cities of Huntington Beach, Fountain Valley, Santa Ana, Irvine, and Newport Beach, and unincorporated Orange County (see Figure 3-1, *Regional Location*). The site is approximately five miles inland from the Pacific Ocean. Regional access to the project site is provided via the Interstate 405 Freeway (I-405 Freeway; San Diego Freeway), which abuts the southern project boundary; State Route 73 (SR-73; San Joaquin Hills Transportation Corridor); and State Route 55 (SR-55; Costa Mesa Freeway). Local access is provided via Harbor Boulevard and Sunflower Avenue.

4.2.2 Regional Planning Considerations

4.2.2.1 SCAG REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The Southern California Association of Governments (SCAG) is a council of governments representing the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. SCAG is the Federally recognized metropolitan planning organization for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under Federal and State law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs.

The *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) was adopted in April 2016 (SCAG 2016). Major themes in the 2016 RTP/SCS include integrating strategies for land use and transportation; striving for sustainability; protecting and preserving existing transportation infrastructure; increasing capacity through improved systems managements; providing more transportation choices; leveraging technology; responding to demographic and housing market changes; supporting commerce, economic growth, and

opportunity; promoting the links between public health, environmental protection, and economic opportunity; and incorporating the principles of social equity and environmental justice.

The SCS portion of the RTP/SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets identified by the California Air Resources Board. The SCS does not require local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives to governments and developers for consistency. The proposed project's consistency with applicable RTP/SCS policies is analyzed in detail in Section 5.6, *Greenhouse Gas Emissions*.

4.2.2.2 SOUTH COAST AIR BASIN AIR QUALITY MANAGEMENT PLAN

The City is in the South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (SCAQMD). Pollutants emitted into the ambient air by stationary and mobile sources are regulated by Federal and State law, and standards are detailed in the SoCAB *2016 Air Quality Management Plan* (2016 AQMP). Air pollutants for which ambient air quality standards (AAQS) have been developed are known as criteria air pollutants, including ozone (O_3), carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_X), sulfur dioxide, coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead. VOC and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants, such as O_3, through chemical and photochemical reactions in the atmosphere. Air basins are classified as attainment/nonattainment areas for particular pollutants depending on whether they meet AAQS for that pollutant. Based on the 2016 AQMP, the SoCAB is designated nonattainment for O_3, $PM_{2.5}$, PM_{10}, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for NO_X under the California AAQS. The proposed project's consistency with the applicable AAQS is discussed in Section 5.2, *Air Quality*.

4.2.2.3 GREENHOUSE GAS EMISSIONS REDUCTION LEGISLATION

Current State guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05. Executive Order B-30-15, the Global Warming Solutions Act of 2008 (Assembly Bill [AB] 32), and the Sustainable Communities and Climate Protection Act (Senate Bill [SB] 375).

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the State:

- 2000 levels by 2010;
- 1990 levels by 2020; and
- 80 percent below 1990 levels by 2050.

AB 32 was passed by the State legislature on August 31, 2006, to place the State on a course toward reducing its contribution of GHG emissions. AB 32 follows the emissions reduction targets established in Executive Order S-3-05. SB 32 was passed September 8, 2016, to set an interim target consistent with AB 32, which became effective January 1, 2017. Executive Order B-30-15 also established an interim goal of a 40 percent reduction below 1990 levels by 2030.

In 2008, SB 375 was adopted to connect GHG emissions reductions targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled (VMT) and vehicle trips. SCAG established GHG reduction targets of eight percent per capita from 2005 GHG emission levels by 2020 and 13 percent per capita from 2005 GHG emission levels by 2035.

In September 2016, Governor Brown signed SB 32 and AB 197, making the Executive Order B-30-15 goal for year 2030 into a State-mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the California Air Resources Board to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

The project's ability to meet these regional GHG emissions reduction target goals is analyzed in Section 5.6.

The State legislature found that with the adoption of SB 375, the State had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and thereby contribute to the reduction of GHG emissions, as required by AB 32. Additionally, AB 1358 requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users.

Senate Bill 743

On September 27, 2013, SB 743 was signed into law, which started a process that would fundamentally change transportation impact analysis as part of CEQA compliance. These changes include the elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of California (if not Statewide). As part of the 2018 CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." (Public Resources Code Section 21099(b)(1)).

The State Office of Planning and Research developed revisions to the CEQA Guidelines under SB 743 that establish new criteria for determining the significance of transportation impacts and define alternative metrics to replace LOS as a method of analyzing traffic impacts under CEQA. SB 743 replaces LOS with VMT-related metric(s) and provides guidance on potential significance thresholds for development projects, land use plans, and transportation infrastructure projects. The 2018 CEQA Guidelines were approved by the Office of Administrative Law, filed with the Secretary of State, and became effective on December 28, 2018. However, until the State Office of Planning and Research revises the CEQA Guidelines and adopts VMT as the new metric for determining transportation impacts, LOS metrics will still be used, as is the case for the proposed project. Further, the legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, or any other planning requirements.

4.2.2.4 SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD BASIN PLAN

Under the Porter-Cologne Water Quality Act, the State Water Resources Control Board (SWRCB) has ultimate control over water quality policy and allocation of State water resources. The SWRCB, through its nine regional water quality control boards (RWQCBs), carries out the regulation, protection, and administration of water

quality in each region. Each RWQCB is required to adopt a water quality control plan or basin plan. The City is in the Santa Ana River Basin, Region 8 and is regulated by the Santa Ana RWQCB.

The *Water Quality Control Plan for the Santa Ana River Basin* gives direction on the beneficial uses of the State's waters in the Santa Ana River Basin, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards.

4.3 LOCAL ENVIRONMENTAL SETTING

4.3.1 Location and Land Use

4.3.1.1 PROJECT LOCATION

The project site is bounded by Sunflower Avenue to the north, South Coast Collection (SOCO) and The OC Mix retail centers to the east, the I-405 Freeway to the south, and industrial and logistics uses to the west. Sunflower Avenue, an east-west roadway bordering the northern project boundary, turns northward at the northwest corner of the site and continues as Cadillac Avenue. Site access is provided via three driveways along Sunflower Avenue.

4.3.1.2 EXISTING LAND USE

On-site Uses

The project site is developed with an approximate 345,000-square foot one-story industrial building (31 feet high), associated parking, and ornamental landscaping. The industrial building is occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dekra-Lite Industries, Inc; not all tenant spaces are in full operations. Existing landscaped areas are provided along the site boundary and surface parking lot. The industrial building represents the baseline conditions for purposes of this Draft EIR.

Surrounding Land Use

The project site is in an urbanized area and surrounded by industrial uses to the north; SOCO and The OC Mix, a commercial development consisting of retail (furniture and housewares), restaurants, and boutique specialty food stalls, to the east; the I-405 Freeway to the south; and commercial and industrial uses to the west.

Across the I-405 Freeway to the south is a single-family residential community and the 1.7-acre Moon Park. The Santa Ana River and the Santa Ana River Trail are located 700 feet west of the project site. The Santa Ana River Trail currently extends from the Pacific Coast in Huntington Beach to Green River Golf Club in Corona but will eventually connect with other segments of the trail for 110 uninterrupted miles to Big Bear Lake in the San Bernardino Mountains (San Bernardino 2019). An existing bicycle path extends from the project's western boundary to the Santa Ana River Trail and north along the western boundary to Cadillac Avenue.

4.3.2 Aesthetics

The project site is developed with an industrial building and surface parking lot in an urbanized area adjacent to the I-405 Freeway. There are no scenic features on-site. Existing trees on-site consist of ornamental species along the property boundary and within the surface parking lot. It is acknowledged that current construction activities associated with the widening of the I-405 Freeway southbound lanes are ongoing. These activities are visible from the project site, and sound walls along the I-405 Freeway southbound lanes have been removed and will be reconstructed as part of the I-405 Freeway Widening Project. Section 5.1, *Aesthetics*, provides a detailed analysis of the proposed project's impact to scenic vistas, visual character, shade/shadow, and lighting.

4.3.3 Air Quality and Greenhouse Gas Emissions

The project site is approximately 4.7 miles inland from the Orange County coast in the western portion of the SoCAB. Temperatures are normally mild (62 to 85 degrees Fahrenheit [°F]), with rare extremes above 100°F or below freezing (32°F). Precipitation is typically nine to 15 inches annually in the SoCAB. The climate of Orange County is typified by warm temperatures and light winds. The average monthly high temperatures range from about 52°F in the coastal areas in January to 85°F in the inland areas of the coastal plain in August. In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rains fall between November and April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Annual average humidity is 70 percent along the coast and 57 percent in the eastern portions of the SoCAB.

The SoCAB is designated nonattainment for O_3, $PM_{2.5}$, PM_{10}, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for NO_2 under the California AAQS. An air quality and greenhouse gas analysis was performed for the project and the results are discussed in Section 5.2, *Air Quality* and Section 5.6.

4.3.4 Cultural and Tribal Cultural Resources

No cultural resources were identified in the project area as a result of the record search, background research, or field surveys. The existing industrial building on the project site was originally constructed in 1975, was last altered in 1995, and is not considered an historical resource (LSA 2019a).

The project area is within the traditional tribal territory of the Gabrielino Indians who lived throughout Los Angeles, western San Bernardino and Riverside, and Orange Counties, and were also historically affiliated with Mission San Gabriel Archangel.

A cultural resources assessment and tribal consultation was conducted pursuant to AB52. Refer to Section 5.3, *Cultural Resources*, and Section 5.14, *Tribal Cultural Resources*, for an analysis of project impacts on cultural and tribal cultural resources, respectively.

4.3.5 Energy

The project site is currently served by Southern California Edison (SCE), which has a service area that spans much of southern California – from Mono County to the north, to Orange and Riverside counties to the south, and Santa Barbara County on the west. Natural gas services on-site are provided by the Southern California Gas Company (SoCalGas), which has a service area that spans most of southern California, from San Luis Obispo in the north to the Mexico border in the south.

An analysis of project-related energy usage was conducted for the project, and the results are discussed in Section 5.4, *Energy*.

4.3.6 Geology and Soils

The project site is flat and located in the central portion of the Orange County Coastal Plain, a relatively flat-lying alluviated surface with an average slope of less than 20 feet per mile. The lowland surface is bounded by hills and mountains to the north and east and by the Pacific Ocean to the south and southwest. Prominent structural features within the Orange County Coastal Plain include the central lowland plain, the northwest trending line of low hills and mesas near the coast underlain by the Newport-Inglewood Fault Zone, and the San Joaquin Hills to the southeast.

Natural sediments of the project area consist of Pleistocene to Holocene marine and non-marine sedimentary rocks that are unconsolidated and semi-consolidated. The project area lies directly within what was the prehistoric natural alignment of the Santa Ana River (LSA 2019a). Specifically, the site is underlain by artificial fill and unconsolidated Holocene age alluvial fan deposits consisting of sand, silt, and clay (Geocon West 2019).

A geotechnical report and paleontological resources assessment were prepared to analyze project impacts related to geology, soils, and paleontological resources; refer to Section 5.5, *Geology and Soils*.

4.3.7 Hazards and Hazardous Materials

The site was historically used for agriculture purposes from the 1930s until the 1970s. The existing industrial building was constructed in 1975 by Nissan Motor Corporation for automobile part storage and distribution, mechanic training, and administrative purposes. As stated above, the site is currently occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dekra-Lite Industries, Inc.

A Phase I Environmental Site Assessment was prepared to evaluate potential hazards associated with past and existing uses on-site. Refer to Section 5.7, *Hazards and Hazardous Materials*, for an analysis of project impacts related to existing and proposed hazards and hazardous materials.

4.3.8 Hydrology

The project site is in the Santa Ana River Watershed, which spans about 2,800 square miles within Orange County, western Riverside County, southwestern San Bernardino County, and a small portion of Los Angeles County. The Santa Ana River, the main channel in the watershed, passes about 700 feet west of the project site,

ultimately flowing toward the Pacific Ocean. Receiving waters for the project are the Santa Ana River Reach 1 to Newport Slough.

The project site is generally flat, with two main drainage areas that convey the majority of stormwater flow southwesterly and southeasterly. Drainage in Sunflower Avenue near the western portion of the site flows westward in a curb and gutter to storm drain inlets that connect to a 66-inch concrete pipe, which extends southward from Cadillac Avenue to the Greenville-Banning Channel about 0.25 mile to the south (URC 2019a). Drainage in Sunflower Avenue near the eastern portion of the site flows eastward in a curb and gutter to storm drain inlets that connect to a reinforced concrete box under Hyland Avenue, which extends south to the Greenville-Banning Channel (OCFCD 2000).

The project site lies within the Main Orange County Groundwater Basin. Depth to groundwater on-site is between ten and 20 feet with an historical high groundwater depth of ten feet below ground surface (URC 2019a).

A hydrology report and water quality management plan were prepared for the project to evaluate impacts on hydrology and water quality; refer to Section 5.8, *Hydrology and Water Quality*.

4.3.9 Land Use and Planning

As stated above, the project site is currently occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dekra-Lite Industries, Inc., within an approximately 345,000-square foot one-story industrial building. The nearest residential uses are located to the south across the I-405 Freeway, approximately 300 feet from the project boundary.

Based on the *2015-2035 General Plan* (General Plan), the site is currently designated Industrial Park. The Industrial Park designation applies to large districts that contain a variety of industrial and compatible office and support commercial uses. They are characterized by large parcels and landscaped setbacks and are situated within proximity to freeways and other major transportation routes. According to the *City of Costa Mesa Zoning Map*, the project site is zoned Industrial Park (MP), which is intended for large, concentrated industrial areas where the aim of development is to create a spacious environment in a park-like setting. The site is also located within the City's Measure X zone, which allows for certain marijuana-related manufacturing and distribution uses. No cultivation or dispensing is allowed.

The project would require a general plan amendment and zone change. Additionally, the project proposes the One Metro West Specific Plan and Master Plan. Refer to Section 5.9, *Land Use and Planning*, for an analysis of project impacts related to land use and planning.

4.3.10 Noise

The primary existing noise source on and near the site is vehicular traffic noise along the I-405 Freeway, Sunflower Avenue, and Cadillac Avenue. Other noise sources are industrial uses in the surrounding area. The nearest sensitive receptors to the project site are residential uses to the south across the I-405 Freeway.

A noise analysis was conducted to evaluate short- and long-term noise impacts associated with the project; refer to Section 5.10, *Noise*.

4.3.11 Population and Housing

There are no existing residents or housing on the project site. The existing tenants in the industrial building have an existing range of employment between approximately 40 to 70 employees on-site on any given day. For the purposes of this analysis, it is assumed the existing on-site employment is 70 employees. Refer to Section 5.11, *Population and Housing*, for an analysis of project impacts related to population and housing growth, employment, and jobs-housing balance.

4.3.12 Public Services and Utilities and Service Systems

The following public service and utility providers serve the project site:

- Fire Protection and Emergency Medical Services: Costa Mesa Fire Department;
- Police Protection: Costa Mesa Police Department;
- Schools: Newport-Mesa Unified School District;
- Libraries: Orange County Public Library;
- Parks Maintenance: City of Costa Mesa Public Services Department;
- Recreation Services: City of Costa Mesa Parks and Community Services Department;
- Water: Mesa Water District;
- Sewers: Costa Mesa Sanitary District and Orange County Sanitation District;
- Wastewater Treatment: Orange County Sanitation District;
- Storm Drainage: City of Costa Mesa and OC Public Works;
- Electricity: Southern California Edison; and
- Natural Gas: Southern California Gas Company.

A fire study was prepared to analyze project impacts on existing Costa Mesa Fire Department resources and response times. Additionally, a hydrology report, water quality management plan, and water supply assessment were prepared to analyze project impacts on storm drainage infrastructure and water services. Refer to Section 5.4; Section 5.12, *Public Services*; and Section 5.15, *Utilities and Service Systems*, for additional information and analyses of project impacts on energy, public services, and utilities and service systems, respectively.

4.3.13 Transportation

Existing Study Area Regional/Local Roadways

Regional access to the project site is provided by the I-405 Freeway, SR-73, and SR-55. Harbor Boulevard and Sunflower Avenue are the major roadways that provide local access to the site; Hyland Avenue and Cadillac Avenue extend perpendicularly from Sunflower Avenue to the east and west, respectively. The following is a brief description of the roadway network in the project site area:

- **Harbor Boulevard:** Harbor Boulevard is a north-south oriented, six-to-eight-lane divided roadway. The General Plan Circulation Element designates Harbor Boulevard as a Major Arterial. The speed limit is 40 miles per hour (mph). Curbside parking is not permitted on either side of the street.
- **Sunflower Avenue:** Sunflower Avenue is an east-west oriented, four-lane divided roadway that provides direct access to the project from the north. It is designated by the General Plan Circulation Element as a Primary Arterial between Hyland Avenue and Bear Street, and as a Major Arterial east of Bear Street. In the project vicinity, Sunflower Avenue terminates at the south end of Cadillac Avenue. The speed limit within the study area varies between 40 and 45 mph. Curbside parking is not permitted on either side of the street.
- **Hyland Avenue:** Hyland Avenue is a north-south oriented, four-lane undivided roadway and is designated as a Primary Arterial by the General Plan Circulation Element. The speed limit is 40 mph. Curbside parking is not permitted on either side of the street.
- **Cadillac Avenue**: Cadillac Avenue is a north-south oriented, two-lane undivided roadway. Cadillac Avenue is not classified in the General Plan Circulation Element. There is no posted speed limit on Cadillac Avenue. Curbside parking is not permitted on either side of the street.
- **Euclid Street:** Euclid Street is a divided north-south six-lane roadway within the City of Fountain Valley. The City of Fountain Valley's General Plan designates it as an Augmented Primary Arterial north of Newhope Street and as a Primary Arterial south of Newhope Street. South of the I-405 Freeway, Euclid Street continues as Ellis Avenue. The speed limit along Euclid Street is 45 mph. Curbside parking is not permitted on either side of the street.
- **Newhope Street:** Newhope Street is a north-south oriented, four-lane divided roadway located within the City of Fountain Valley. South of Euclid Street, Newhope Street terminates at the I-405 Freeway as northbound ramps. The City of Fountain Valley's General Plan designates it as a Secondary Arterial. The speed limit along Newhope Street is 40 mph. Curbside parking is not permitted on either side of the street.
- **Talbert Avenue/West MacArthur Boulevard**: Talbert Avenue is an east-west oriented, six-lane divided roadway within the City of Fountain Valley and City of Costa Mesa. Talbert Avenue continues as West MacArthur Boulevard (west of Harbor Boulevard) within the City of Santa Ana. It is designated by the City of Fountain Valley's General Plan as a Primary Arterial west of Euclid Street and as an Augmented Primary Arterial east of Euclid Street. In the City of Costa Mesa, Talbert Avenue is designated by the General Plan as a Primary Arterial between the western City limit and Hyland Avenue, and as a Major Arterial between Hyland Avenue and the eastern City limit. MacArthur Boulevard is designated as a Major Arterial within the City of Santa Ana General Plan Circulation Element. The speed limit within the study area varies between 40 and 45 mph. Curbside parking is not permitted on either side of the street.
- **South Coast Drive:** South Coast Drive is an east-west oriented, four-lane divided roadway within the City of Costa Mesa. It is designated as a Primary Arterial in the General Plan Circulation Element. The speed limit is 45 mph. Curbside parking is not permitted on either side of the street.
- **Susan Street:** Susan Street is a north-south oriented, four-lane divided roadway between Sunflower Avenue and the I-405 Freeway, and a two-lane roadway north of Sunflower Avenue within the City of Costa Mesa.

Though it is not classified in the General Plan Circulation Element, it functions as an arterial south of Sunflower Avenue and as a collector north of Sunflower Avenue. The speed limit is 35 mph. Curbside parking is not permitted on either side of the street.

- **Fairview Road:** Fairview Road is a north-south oriented, six-lane divided roadway. The General Plan Circulation Element classifies it as a Major Arterial. The speed limit is 45 mph. Curbside parking is not permitted on either side of the street.

Additionally, the intersection of the I-405 Freeway Southbound Ramps/Ellis Avenue-Euclid Street is currently being improved as part of the I-405 Freeway Improvement Project by adding a new eastbound slip-on ramp from Ellis Avenue to the southbound I-405 Freeway, thereby eliminating the dual left-turn lanes from eastbound Ellis Avenue to the existing I-405 Freeway southbound on-ramp.

A traffic impact analysis was conducted to analyze project impacts on surrounding roadways, intersections, and freeways. Refer to Section 5.13, *Transportation*, for a summary of the findings.

4.4 ASSUMPTIONS REGARDING CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines states that cumulative impacts shall be discussed where they are significant. It further states this discussion shall reflect the level and severity of the impact and the likelihood of occurrence, but not in as great a level of detail as is necessary for the project alone. Section 15355 of the CEQA Guidelines defines cumulative impacts as "…two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Cumulative impacts represent the change caused by the incremental impact of a project when added to other proposed or committed projects in the vicinity.

Section 15130 (b)(1) of the CEQA Guidelines states the information used in analysis of cumulative impacts should come from one of two sources:

A. A list of past, present, and probable future projects producing related cumulative impacts, including, if necessary, those projects outside the control of the agency; and/or

B. A summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions.

The cumulative impact analyses in this Draft EIR use both Methods A and B and are, therefore, highly conservative. The analysis uses the adopted Citywide and regional growth forecasts from SCAG's RTP/SCS (refer to Table 4-1, *SCAG 2012-2040 Growth Forecasts*) for land use and planning impacts, or other long-range planning documents, such as the *City of Costa Mesa 2015 Urban Water Management Plan* for cumulative water supply analysis. This information was supplemented with analyses of related projects as described below.

Table 4-1 SCAG 2012-2040 Growth Forecasts

		2012	2040	Increase (2012 to 2040)	Percent Increase (2012 to 2040)
County of Orange	Population	3,071,600	3,461,500	389,900	12.7%
	Households	999,500	1,134,300	134,800	13.5%
	Employment	1,526,500	1,898,900	372,400	24.4%
City of Costa Mesa	Population	111,200	116,400	5,200	4.7%
	Households	40,000	42,500	2,500	6.3%
	Employment	84,400	93,200	8,800	10.4%

Source: SCAG 2016.

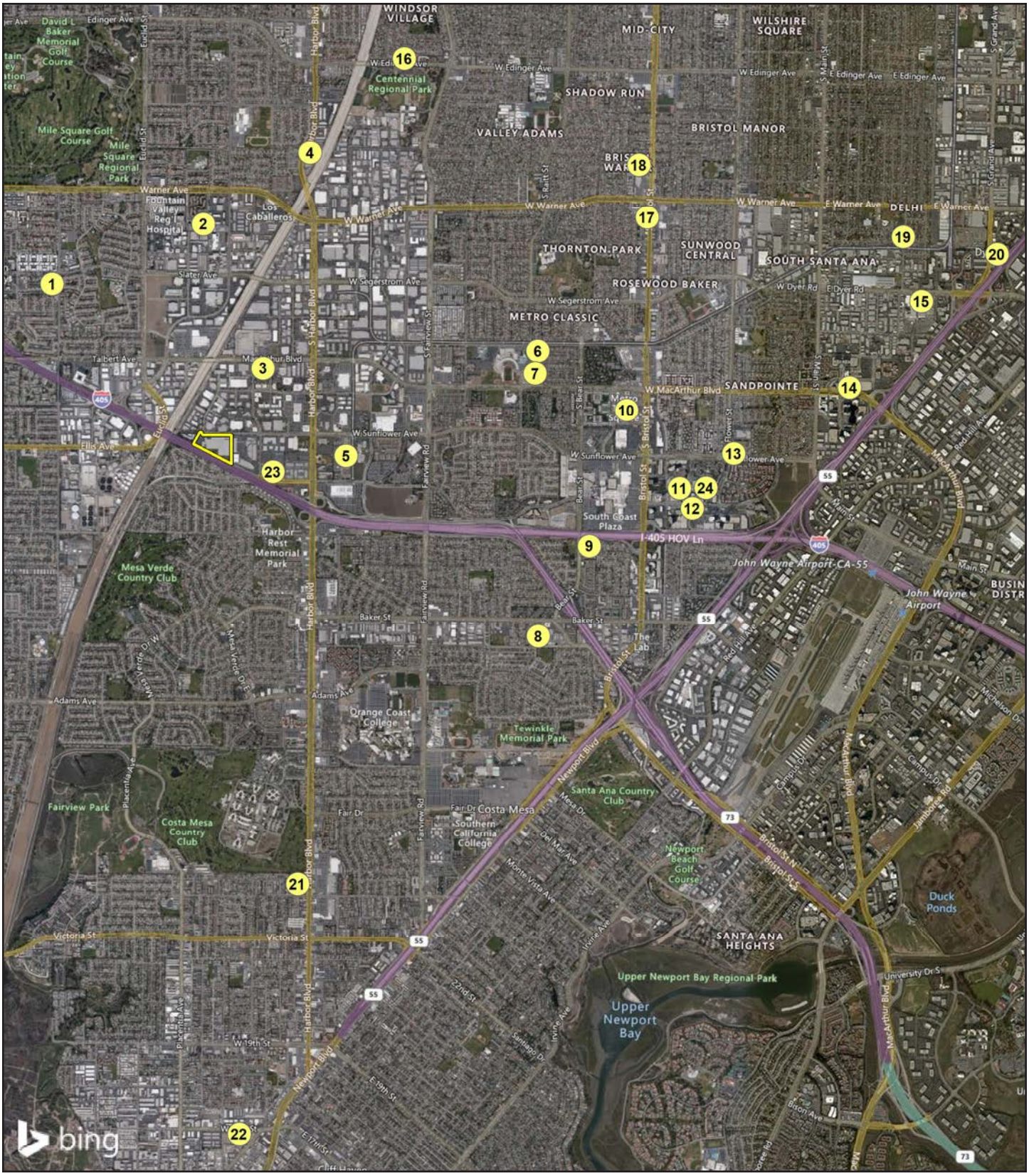
Growth projections were supplemented with a list of related projects, based on data from the cities of Costa Mesa, Fountain Valley, and Santa Ana. A total of 24 related projects were identified; refer to Table 4-2, *Related Projects*, and Figure 4-1, *Cumulative Projects*. These projects are expected to be implemented in the vicinity of the project site at the time of project buildout.

Refer to Chapter 5, *Environmental Analysis* for a discussion of the cumulative impacts associated with development and growth in the City and region for each environmental resource area.

Table 4-2 Related Projects

No.	Project/Land Use	Location	Quantity	Daily Trip Generation
1	Single-Family Homes	10460 Slater Avenue, Fountain Valley	12 DU	113
2	Wellbrook Assisted Living	11360 Warner Avenue, Fountain Valley	162 beds	444
3	Harbor Gateway Industrial Building	1585 MacArthur Boulevard, Costa Mesa	100,000 square feet	496
4	Affordable Housing Project	16790 Harbor Boulevard, Fountain Valley	50 DU	366
5	The Press	1375 Sunflower Street, Costa Mesa	665,000 square feet	6,477
6	Christ Our Savior Catholic Parish	2000 West Alton Avenue, Santa Ana	46,310 square feet	322
7	Shea Homes	2001 West MacArthur Boulevard, Santa Ana	42 DU	396
8	DeNova Homes	929 Baker Street, Costa Mesa	56 DU	366
9.	Education First	3150 Bear St, Costa Mesa	68,000 square feet	1,771
10	Metro Town Square Expansion	3719 South Plaza Drive, Santa Ana	6,000 square feet	384
11	Orange County Museum of Art	3333 Avenue of the Arts, Costa Mesa	66,750 square feet	187
12	Symphony Apartments	595 Anton Boulevard, Costa Mesa	393 DU	1,434
13	Legacy Sunflower	651 West Sunflower Avenue, Santa Ana	226 DU	1,229
14	Legado at the Met	200 East First American Way, Santa Ana	278 DU	2,015
15	Industrial Campus Development	666 East Dyer Road, Santa Ana	495,670 square feet	1,670
16	Haphan Housing	3025 West Edinger Avenue, Santa Ana	18 DU	132
17	South Coast Speedwash	2402 South Bristol Street, Santa Ana	26,150 square feet for car wash 8,180 square feet for retail/restaurant	4,805
18	Bristol Office Plaza	1400 West St. Gertrude Place, Santa Ana	7,500 square feet	73
19	Our Lady of Guadalupe Office	542 East Central Avenue, Santa Ana	6,370 square feet	62
20	Tapestry by Hilton and Restaurant	1580 East Warner Avenue, Santa Ana	84,380 square feet	705
21	2277 Harbor Boulevard	2277 Harbor Boulevard, Costa Mesa	200 DU	1,464
22	17 West – The Lofts	671 West 17th Street, Costa Mesa	177 DU	1,296
23	VANS Headquarter Expansion	1588 South Coast Drive, Costa Mesa	91,020 square feet	887
24	Avenue of the Arts Hotel Expansion	3350 Avenue of the Arts, Costa Mesa	150 rooms	1,254
		Totals	**1,452 DU; 1,671,330 square feet; 162 beds; and 150 rooms**	**28,348**

Source: LSA 2019d.
Notes: DU = dwelling units



Source: LSA, 2019.

LEGEND

Project Location

Cumulative Project Locations

NOT TO SCALE

Michael Baker INTERNATIONAL

01/20 JN 172326

ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Cumulative Projects

Figure 4-1

Chapter 5.0 Environmental Analysis

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5. Environmental Analysis

Chapter 5 examines the environmental setting of the proposed project, analyzes its effects and the significance of its impacts, and recommends mitigation measures to reduce or avoid impacts. This chapter has a separate section for each environmental issue area that was determined to need further study in this Draft EIR. This scope was determined, in part, by public and agency comments received on the Notice of Preparation (NOP), which was published on May 23, 2019, for a public review period from May 23, 2019 to June 26, 2019 (refer to Appendix A, *Notice of Preparation [NOP]*), as well as comments received during the scoping meeting held on June 5, 2019; refer to Appendix B, *NOP Comments*. Environmental issues analyzed in this Draft EIR and their corresponding sections include:

- 5.1 Aesthetics;
- 5.2 Air Quality;
- 5.3 Cultural Resources;
- 5.4 Energy;
- 5.5 Geology and Soils;
- 5.6 Greenhouse Gas Emissions;
- 5.7 Hazards and Hazardous Materials;
- 5.8 Hydrology and Water Quality;
- 5.9 Land Use and Planning;
- 5.10 Noise;
- 5.11 Population and Housing;
- 5.12 Public Services and Recreation;
- 5.13 Transportation;
- 5.14 Tribal Cultural Resources; and
- 5.15 Utilities and Service Systems.

Section 5.1, *Aesthetics*, through Section 5.15, *Utilities and Service Systems*, provide a detailed discussion of the environmental setting, impacts associated with the proposed project, and mitigation measures designed to reduce significant impacts where required and when feasible. The residual impacts following the implementation of any mitigation measure are also discussed.

Issues under an environmental topic determined by the City to not be significantly affected by implementation of the project are not discussed further in this chapter, but are presented in Chapter 8, *Impacts Found Not to be Significant*.

5. Environmental Analysis

Organization of Environmental Analysis

To assist the reader with comparing information between environmental issues, each section is organized under eight major headings:

- Environmental Setting;
- Thresholds of Significance;
- Plans, Programs, Policies, and Standard Conditions of Approval;
- Environmental Impacts;
- Cumulative Impacts;
- Level of Significance Before Mitigation;
- Mitigation Measures; and
- Level of Significance After Mitigation.

In addition, Chapter 1, *Executive Summary,* includes a table summarizing all impacts by environmental issue.

Terminology Used in This Draft EIR

The level of significance is identified for each impact in this Draft EIR. Although the criteria for determining significance are different for each topic area, the environmental analysis applies a uniform classification of the impacts based on the following definitions consistent with CEQA and the CEQA Guidelines:

- **No Impact.** The project would not change the environment.
- **Less Than Significant Impact.** The project would not cause any substantial, adverse change in the environment.
- **Less Than Significant Impact With Mitigation Incorporated.** The Draft EIR includes mitigation measures that avoid substantial adverse impacts on the environment.
- **Significant and Unavoidable Impact.** The project would cause a substantial adverse effect on the environment, and no feasible mitigation measures are available to reduce the impact to a less than significant level.

Chapter 5.1 Aesthetics

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5.1 AESTHETICS

This section of the Draft EIR discusses the potential for the project to impact scenic vistas and resources, visual character, and result in light and glare. The information presented in this section is based on field reconnaissance, aerial photographs, and applicant-provided renderings and shade/shadow diagrams.

5.1.1 Environmental Setting

5.1.1.1 REGULATORY BACKGROUND

Local

General Plan

According to the General Plan Community Design Element, the project site is located within the Harbor Gateway District. The Harbor Gateway District is described by the General Plan as having an office park character, with ample landscaping and large multi-story building complexes. The project site is adjacent to the South Coast Collection (SOCO), a lifestyle center identified as a local landmark in the General Plan. The Community Design Element includes the following goals, objectives, and policies pertaining to aesthetics:

- **Goal CD-1**: Vehicular and Pedestrian Corridors. Strengthen the image of the City as experienced from sidewalks and roadways.
    - **Objective CD-1A**: Contribute to City beautification by enhancing the visual environment of Costa Mesa's vehicular and pedestrian paths and corridors.
        - **Policy CD-1.3**: Promote treatments for walls and fences and utility cabinets along public rights-of-way that contribute to an attractive street and sidewalk environment. Require that new walls and fences complement the style and character of the local district and adjacent buildings. Newly constructed or reconstructed walls and fences adjacent to sidewalks and roadways should incorporate architectural treatments such as pilasters, masonry, or wrought iron, and should integrate tiered plantings to soften their appearance.
        - **Policy CD-1.4**: Promote a consistent landscape character along City streets to reinforce the unique qualities of each corridor and district, including the development of landscaped medians. Support implementation of the recommended street tree palette for each City street, as identified in the City of Costa Mesa Streetscape and Median Development Guidelines.
        - **Policy CD-1.5**: Encourage electric and communication lines to be placed underground and electrical substations and telephone facilities to be screened to minimize visual impacts from sidewalks, streets, and adjacent properties. Support utility undergrounding through conditions of project approval, preparation of undergrounding plans, and the formation of assessment districts.
- **Goal CD-2**: Cohesive and Identifiable Districts. Enhance the existing character and strengthen the identity of Costa Mesa's districts.

- **Objective CD-2A**: Encourage future development and redevelopment to reinforce district scale, identity, and urban form.
  - **Policy CD-2.2**: Support and seek land uses and development that correspond or enrich our existing districts.

- **Goal CD-4**: Identifiable and Protected City Landmarks.
  - **Objective CD-4A**: Promote the maintenance, use, and improvement of landmarks to enhance the visual image and identity of Costa Mesa.
    - **Policy CD-4.1**: Support efforts to introduce new monuments and landmarks, and preserve, maintain, and improve the condition of Costa Mesa landmarks.

- **Goal CD-5**: Utilize Costa Mesa's edges as opportunities to enhance the City's image along its boundaries.
  - **Objective CD-5A**: Develop and implement programs that preserve and enhance City edges.
    - **Policy CD-5.1**: Preserve and optimize natural views and open spaces in Costa Mesa.

- **Goal CD-6**: Enhance opportunities for new development and redevelopment to contribute to a positive visual image for the City of Costa Mesa that is consistent with the district image.
  - **Objective CD-6A**: Establish development policies and design guidelines that create an aesthetically pleasing and functional environment.
    - **Policy CD-6.1**: Encourage the inclusion of public art and attractive, functional architecture into new development that will have the effect of promoting Costa Mesa as the "City of the Arts."
    - **Policy CD-6.2**: Encourage the use of creative and well-designed signs that establish a distinctive image for the City.

- **Goal CD-7**: Quality Residential. Promote and protect the unique identity of Costa Mesa's residential neighborhoods.
  - **Objective CD-7A**: Encourage excellence in architectural design.
    - **Policy CD-7.2**: Preserve the character and scale of Costa Mesa's established residential neighborhoods where possible; when new residential development is proposed, encourage that the new structures are consistent with the prevailing character of existing development in the immediate vicinity, and that new development does not have a substantial adverse impact on adjacent areas.

- **Goal CD-8**: Quality Commercial Development. Achieve a high level of design quality for commercial development.

- **Objective CD-8A**. Encourage a high level of architectural and site design quality.
  - **Policy CD-8.8**: All required parking areas and driveways shall be illuminated under the direction of the planning division. Lights used to illuminate parking areas shall be directed away from any adjoining premises located in any residential zone under the direction of the planning division.

- **Goal CD-9**: Promote development of mixed-use projects that seamlessly integrate multiple uses both functionally and aesthetically.
  - **Objective CD-9A**: Design mixed use development projects to achieve a high-quality character.
    - **Policy CD-9.1**: Require that mixed-use development projects be designed to mitigate potential conflicts between uses. Consider noise, lighting, and security.
    - **Policy CD-9.2**: Provide adequate parking, open space, and recreational facilities to serve residents in mixed-use development projects. Design parking and other areas to acknowledge different users (residents versus shoppers) and to be compatible with the architectural character of the building(s).

Municipal Code

Municipal Code Title 13, *Planning, Zoning, and Development*, identifies land use categories, development standards, and other provisions that ensure consistency between the General Plan and proposed development and redevelopment projects.

Municipal Code Chapter V, *Development Standards*, addresses floor area ratios, the siting and height of structures, landscaping, signs, parking, and other requirements.

Municipal Code Chapter III, Section 13-29, *Planning Application Review Process*, includes information regarding the City's Design Review process.

Pursuant to Municipal Code Chapter V, Article 6, *Planned Development*, planned developments can be created in appropriate locations with innovative planning and zoning concepts as long as the project meets the broader goals of the General Plan and Zoning Code by exhibiting high quality planning, design, and integration of uses, and protecting the integrity of neighboring development.

The City's landscaping standards are included in Municipal Code Chapter VII, *Landscaping Standards*. This chapter is intended to enhance the aesthetic appearance of the City by providing standards relating to quality, quantity, and functional aspects of landscaping. Chapter VII establishes minimum landscape standards to conserve water, control soil erosion, buffer and/or screen various uses, deter graffiti, and ensure ongoing maintenance of landscape areas.

Municipal Code Chapter VIII, *Signs*, regulates the type, size, and placement of signs on properties to balance the identification and communication needs with an aesthetically pleasing and safe environment.

5.1.1.2 EXISTING CONDITIONS

Costa Mesa is situated on a plateau approximately one mile from the Pacific Ocean and is almost completely urbanized. The urban environment consists primarily of residential neighborhoods, with several commercial districts and concentrations of light industrial businesses. Overall, the aesthetic environment of the project area is urban and developed and is characterized by relatively flat terrain. The project area is generally dominated by transportation uses (I-405 Freeway) and a mixture of retail, industrial, and logistic uses.

As discussed in Section 4.0, *Environmental Setting*, the project site is currently developed with an approximately 345,000-square foot one-story industrial building (31 feet high), associated parking, and ornamental landscaping; refer to Figure 5.1-1, *Existing Conditions Photographs*. The northern facade of the existing industrial building includes two loading docks facing Sunflower Avenue. Two paved surface parking lots with landscaped islands are located along the eastern and western portions of the project site. A landscaped area along Sunflower Avenue separates the public rights-of-way from the chain link-fenced project site. This area includes grass turf and scattered trees. Views of the existing industrial building and loading docks are available from Sunflower Avenue and neighboring properties. The southern portion of the project site includes a grass turf area with scattered trees that separates the existing building from the I-405 Freeway. The existing industrial building is fully visible from the I-405 Freeway and the residential properties south of the I-405 Freeway. Much of the surface parking lots are screened by trees from views along the I-405 Freeway and the business park to the northwest.

Scenic Resources

The City's physical setting allows for views of scenic resources including the Pacific Ocean, Santa Ana River, Upper Newport Bay, and Santa Ana Mountains. Views of these resources are afforded at specific public locations within the City that provide uninterrupted, large expanse views of undeveloped land and these resources. According to the General Plan EIR, such locations include Fairview Park, Talbert Regional Park and its adjacent wildlife refuge, and the golf courses, parks, and ballfields in the City. These specific locations do not include views of the project site.

The project site is located over 4.5 miles inland of the Pacific Ocean and over ten miles southwest of the Santa Ana Mountains. Views of the Pacific Ocean and Santa Ana Mountains are not afforded from the project site under existing conditions due to intervening topography, existing structures, and vegetation. Although the project site is located approximately 700 feet east of the Santa Ana River and a bicycle path extends from the project site's western boundary to the Santa Ana River Trail, there are no visual resources at this segment under existing conditions.

The proposed project is not adjacent to or near a State-designated scenic highway (Caltrans 2017). The closest officially designated State scenic highway is a portion of State Route 91 (SR-91), located over ten miles northeast of the site. Views of the project site are not afforded from SR-91 due to intervening topography, structures, and vegetation.

View looking north towards Sunflower Avenue and light industrial uses to the north.

View looking south towards Sunflower Avenue and existing on-site light industrial uses (Sakura Paper Factory).

Industrial uses to the north of the project site.

Industrial and logistics uses to the west of the project site.

View of Sunflower Avenue, existing on-site light industrial uses (Robinson Pharmaceuticals), and surface parking.

View of the South Coast Collection (SOCO) retail center to the east of the project site.

NOT TO SCALE

Michael Baker INTERNATIONAL

01/20 JN 172326

ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Existing Conditions Photographs

Figure 5.1-1

Visual Character/Quality

According to the General Plan EIR, the City is divided into sub-areas, or "districts," each with its own visual pattern. Distinguishing features may include building type, use, activity, inhabitants, and/or topography. A district is defined as an integral part of a larger urban area with common characteristics that make it unique from other areas of the community.

According to the General Plan Community Design Element, the project site is located within the Harbor Gateway District. The Harbor Gateway District is described by the General Plan as having an office park character, with ample landscaping and large multi-story building complexes. The project site is adjacent to SOCO, a lifestyle center identified as a landmark in the General Plan. According to the General Plan, a "landmark" is a physical element that provides a point of reference or serves as a community identity marker. Most landmarks are also main destination locations within the City as well.

As shown in Figure 5.1-1, the visual character of the site and its surroundings is dominated by the I-405 Freeway and a large mixture of retail, industrial, and logistic uses with varying styles of architecture.

Light and Glare

Lighting effects are associated with the use of artificial light during the evening and nighttime hours. There are two primary sources of light: light emanating from building interiors passing through windows, and light from exterior sources (i.e., street lighting, building illumination, security lighting, parking lot lighting, and landscape lighting). Light introduction can be a nuisance to adjacent residential areas, diminish the view of the clear night sky, and if uncontrolled, can cause disturbances. Uses such as residences are considered light sensitive since occupants have expectations of privacy during evening hours and may be subject to disturbance by bright light sources. Residential uses to the south of the project site represent the closest light-sensitive uses to the project. Light spill is typically defined as the presence of unwanted light on properties adjacent to the property being illuminated. With respect to lighting, the degree of illumination may vary widely depending on the amount of light generated, height of the light source, presence of barriers or obstructions, type of light source, and weather conditions.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces. Perceived glare is the unwanted and potentially objectionable sensation as observed by a person as they look directly into the light source of a luminaire. Daytime glare generation is common in urban areas and is typically associated with buildings with exterior facades largely or entirely comprised of highly reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources such as automobile headlights. Glare-sensitive uses include residences, transportation corridors, and aircraft landing corridors.

The project site is developed with an existing industrial building and is surrounded on all sides by existing urban development. As a result, various sources of light and glare are present in the area. On-site lighting associated with the existing industrial building includes parking lot lighting, building illumination, and security lighting. Lighting caused by car headlights and street lighting associated with I-405 Freeway, Sunflower Avenue, and

Cadillac Avenue further influence lighting in the project area. Adjacent sources of reflective materials, lighting, and electronic signage for existing development along I-405 Freeway also exists. SOCO includes large-scale billboards and retail display windows that face I-405 Freeway. SOCO also has three large pylon signs, one of which has an LED reader board, and metal halide cutoff fixtures along the I-405 Freeway edge, which produce intense focused light under the fixtures. Accent lighting fixtures are also present at the SOCO entryways.

Currently, daytime glare is not readily apparent on-site. In the project area, existing glare sources include vehicle headlights along I-405 Freeway, surrounding roadways, and neighboring parking lots, as well as exterior security lighting in the area. Reflective materials, lighting, and electronic signage for existing developments along I-405 Freeway also contribute to nighttime glare.

Shade/Shadow

Shading refers to the effect of shadows cast upon adjacent areas by proposed structures. Consequences of shadows upon land uses may be positive, including cooling effects during warm weather, or negative, such as the loss of natural light necessary for solar energy purposes or the loss of warming influences during cool weather. Shadow effects are dependent upon several factors, including the local topography, height and bulk of the project's structural elements, sensitivity of adjacent land uses, season, and duration of shadow projection. Facilities and operations sensitive to the effects of shading include: routinely usable outdoor spaces associated with residential, recreational, or institutional (e.g., schools, convalescent homes) land uses; commercial uses such as pedestrian-oriented outdoor spaces or restaurants with outdoor eating areas; nurseries; and existing solar collectors. These uses are considered sensitive because sunlight is important to their function, physical comfort, or commerce.

Existing shadow-sensitive uses in the vicinity of the project site include residences to the south of the project site across I-405 Freeway, approximately 300 feet from the project boundary.

5.1.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

AE-1 Have a substantial adverse effect on a scenic vista.

AE-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.

AE-3 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); in urbanized areas, conflict with applicable zoning and other regulations governing scenic quality.

AE-4 Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

No impacts relating to thresholds AE-1 and AE-2 were identified, as substantiated in Chapter 8, *Impacts Found Not to be Significant*, of this Draft EIR. These thresholds are not addressed in the following analysis.

5.1.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to aesthetics/light and glare.

PPP AES-1 Prior to issuance of the first building permit for the proposed project, the owner/developer would be required to submit a Design Plan for the Building "A" parking elevation (facade) along the I-405 Freeway for review by the Planning Division and approval by the City's Cultural Arts Committee. All architectural treatments including public art installations must comply with the regulations in the One Metro West Specific Plan. As such, architectural treatments would exclude the use of moving, flashing, or otherwise visually distracting elements or materials that are highly reflective or generate noise.

PPP AES-2 The City of Costa Mesa would verify the proposed project is developed pursuant to the development standards and design guidelines included in the One Metro West Specific Plan.

SCA AE-1 The City of Costa Mesa would be required to verify the proposed project is architecturally compatible (pertaining to building materials, style, colors, etc.) with the existing surrounding development and consistent with the One Metro West Specific Plan during the plan check review process.

SCA AE-2 No modification(s) of the approved building elevations including, but not limited to, changes that increase the building height, removal of building articulation, or a change of the finish material(s), would be made during construction without prior Planning Division written approval. Failure to obtain prior Planning Division approval of the modification could result in requirement of the applicant to (re)process the modification through a discretionary review process, or modify the construction drawings to reflect the approved plans.

SCA AE-3 No exterior roof access ladders, roof drain scuppers, or roof drain downspouts would be permitted. This condition relates to visually prominent features of scuppers or downspouts that not only detract from the architecture but may be spilling water from overhead without an integrated gutter system which would typically channel the rainwater from the scupper/downspout to the ground. An integrated downspout/gutter system painted to match the building would comply with the condition. This condition would be completed under the direction of the Planning Division.

SCA AE-4 Permits would be required for all signs according to the provisions of the Costa Mesa Sign Ordinance. Freestanding signs would be subject to review and approval by the Planning Division/Development Services Director to ensure compatibility in terms of size, height, and

location with the proposed/existing development and existing freestanding signs in the project vicinity.

SCA AE-5 Prior to the issuance of the first building permit, the Applicant shall submit a Lighting Plan and Photometric Study for approval by the Development Services Director or designee. The Lighting Plan and Photometric Study shall demonstrate compliance with the following:

- The intensity and location of lights on buildings shall be limited to minimize nighttime light and glare to off-site residents.
- All site lighting fixtures shall be provided with a flat glass lens. Photometric calculations shall indicate the effect of the flat glass lens fixture efficiency.
- Lighting design and layout shall limit light spillage to no more than 0.5 foot-candles at the property line of off-site residential properties. The level of on-site lighting shall be as determined necessary for safety and security purposes. Light standards shall be located and oriented in such a way as to minimize light spillage onto surrounding properties. Light shall be shielded, and pointed downward or otherwise directed away from off-site properties.
- The intensity of the parking deck lighting and lighting associated with any public art installation visible from off-site residential properties shall be reduced to low levels from 9:00 p.m. until dawn each day to minimize lighting impacts to off-site residential properties.
- Illuminated signs visible from off-site residential properties shall be completely shut off at 10:00 p.m., seven days a week.

Refer to the following sections for a discussion of applicable PPPs:

- Section 5.8, *Hydrology and Water Quality*, PPP HYD-1, SCA HYD-1, and SCA HYD-2; and
- Section 5.10, *Noise*, PPP N-2.

5.1.4 Environmental Impacts

5.1.4.1 METHODOLOGY

The assessment of aesthetic impacts is subjective by nature. Aesthetics generally refer to the identification of visual resources and the quality of what can be seen, as well as an overall visual perception of the environment. This analysis attempts to identify and objectively examine factors that contribute to the perception of aesthetic impacts. Potential aesthetic impacts can be evaluated by considering proposed grade separations, landform alteration, building setbacks, scale, massing, and landscaping features associated with the design of a project. This section includes an analysis of the consistency of the project with established visual resources policies and a qualitative assessment of aesthetic characteristics.

5.1.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which there may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.1-1: The proposed project could conflict with applicable zoning and other regulations governing scenic quality. [Threshold AE-3]

As discussed in Section 5.1.1.2, *Existing Conditions*, the project site is currently developed with an industrial building, associated parking, and ornamental landscaping and is surrounded on all sides by urbanized uses. As the project site is primarily surrounded by urbanized uses in all directions, and although the project would change the visual character of the site, project implementation would not degrade the existing visual character or quality of public views of the site or its surroundings. The following discussion analyzes the project's potential to conflict with applicable zoning and other regulations governing scenic quality.

Construction

Construction would involve the demolition of the existing on-site industrial building, associated parking, and ornamental landscaping to allow for construction of the proposed project. Following site preparation activities, the construction of the proposed project would occur. Construction staging and parking areas would be within the boundaries of the project site. The project's construction-related visual impacts are considered temporary and would cease upon construction completion. Various controls would be implemented during construction to ensure the project does not conflict with applicable zoning or regulations. For example, construction and demolition activities would require compliance with the General Construction Permit Water Quality Order 2009-0009-DWQ (as amended by Order No. 2010-0014-DWQ and 2012-006-DWQ), which requires the preparation and implementation of a SWPPP pursuant to PPP HYD-1. The SWPPP would require implementation of various construction BMPs which would minimize visual impacts; refer to Table 5.8-2, *Construction Best Management Practices*. SCA HYD-1 through SCA HYD-3 would ensure dust suppression and site maintenance techniques are implemented during project construction. Further, all grading and earthwork activities would be conducted in accordance with an approved construction grading plan and grading permit issued by the City. As a result, construction-related impacts concerning the potential to conflict with applicable zoning or other regulations governing scenic quality would be less than significant.

Operations

The proposed project would redevelop a site close to the City's eastern gateway along I-405 Freeway, redeveloping the site from an industrial building to a mixed-use development with multi-family residential, commercial creative office space, specialty retail, and open space. The proposed project includes a total of four buildings, outdoor open space areas, and roadway improvements to Sunflower Avenue. These features are described in detail below and are depicted on Figure 3-3, *One Metro West Land Use Plan*.

- **Building A.** Building A is located on the southern side of the project site adjacent to I-405 Freeway. Building A would be a maximum of six stories; refer to Figure 3-11a, *Building A Elevations*. Features associated with Building A would include residential units and amenity spaces, including outdoor terraces.

The southern side of the building would include an enclosed six level parking garage that extends along the building frontage. Parking on the roof would be open air. As part of the project, the Building "A" Parking elevation (facade) would include public art to enhance the large wall space, as seen from the I-405 Freeway.

Prior to issuance of the first building permit for the proposed project, the owner/developer is required to submit a design plan for the Building "A" facade along the I-405 Freeway for approval by the City Cultural Arts Committee (see PPP AES-1). The Specific Plan details the requirements for a Public Art Plan to include examples of murals or other works to be used to enhance building walls, particularly the I-405 Freeway facade (see PPP AES-2). Examples of artistic treatments that may be proposed for the length of the structure adjacent to, and facing, I-405 Freeway are discussed below under "Design Guidelines." The artwork may include illumination to allow passing motorists view of the artwork at reasonable hours. Illumination may be static, up-lighted, back-lighted, or change according to computer program, and/or adopt seasonal themes. It is acknowledged that all proposed lighting features would be required to meet the Development Standards required as part of the Specific Plan. An Exterior Lighting Plan would be prepared, prior to issuance of the first building permit, that identifies and depicts locations, types, scale, and illumination power of lighting fixtures on all building exteriors (SCA AE-5). The Lighting Plan and Photometric Study would include performance standards to minimize the project's potential to result in lighting impacts.

- **Building B.** Building B is located on the northwestern side of the project site along Sunflower Avenue; refer to Figure 3-11b, *Building B Elevations*. Building B would be a maximum of seven stories and includes a number of indoor amenity spaces. Outdoor amenity spaces provided on level two would largely be blocked from view from the public right-of-way along Sunflower Avenue, with the exception of the easternmost courtyard, which is open on the eastern side. Outdoor amenity terraces on levels three and seven, located on the west side of the building and at each corner of the building, respectively, may be visible from Sunflower Avenue. Residential dwelling units are provided on all stories. Parking would be provided interior to the building on level one and in two levels of subterranean parking.

- **Building C.** Building C is located on the northeast corner of the project site along Sunflower Avenue and east of Building B; refer to Figure 3-11c, *Building C Elevations*. Building C would be a maximum of seven stories. Ground floor retail space would be provided fronting Sunflower Avenue. Amenity terraces would be provided on the north and east side of the building on level seven, which may be visible to travelers on Sunflower Street. Building C would also include an amenity roof terrace with recreational buildings. Residential units are provided on all levels. Parking would be provided interior to the building on all levels.

- **Creative Office Building.** The creative office building is located on the southwest side of the project site. The creative office building is three stories and would be visible from I-405 Freeway.

- **Open Space.** On the west side of the project side, the proposed project would include an open space area of approximately 1.5 acres. The open space area would include seating and resting areas with creative landscaping/art pieces and shade structures. Landscaping would be highly emphasized along the perimeter

of the site, throughout the residential portion, and within the open space area to help soften the landscape around and within One Metro West.

- **Santa Ana River Trail Improvements.** The project would install a new landscaped bicycle trail along the western side of the open space area. The bicycle trail would connect the southwest portion of the project site to the Santa Ana River Trail.

- **Sunflower Avenue Improvements.** The proposed project includes roadway improvements to Sunflower Avenue from Cadillac Avenue to the eastern project boundary; refer to Figure 3-6, *Sunflower Avenue Improvements*. Improvements would include new bicycle paths, sidewalks, street parking, and landscape medians to enhance the neighborhood from an industrial setting to a mixed-use residential area. Additionally, the existing utility poles and overhead lines would be relocated underground along the project frontage. Off-site improvements such as wide sidewalks, street trees, and decorative elements would improve the appearance of the streetscape, connecting the landscape with the adjacent SOCO.

- **Fence and Wall Plan.** The proposed project includes a six-foot block wall with vines that would be constructed along the eastern edge of the project site with a 10-foot setback from the property line or face of buildings.

Specific Plan Section 3, *Development Standards*, Specific Plan Section 4, *Design Guidelines*, and the Master Plan would facilitate development of the project features discussed above (see PPP AES-2). Development Standards are indicators of firm requirements and pertain to such categories as building areas, building heights, building setbacks, residential density, parking, etc. As such, Development Standards are rules or measures pertaining to land uses and zoning that establish a level of quality or quantity that must be complied with or satisfied.

Design Guidelines are intended to ensure the Specific Plan's objectives and Development Standards are implemented throughout the project site. The Design Guidelines are not regulatory; rather, the Design Guidelines serve as guides for development of the Master Plan. The Master Plan illustrates and explains the development plans that implement Specific Plan Development Standards and Design Guidelines. These components are discussed in further detail below.

Development Standards

The proposed Specific Plan would guide future development of the project site. Specific Plan Section 3.3, *Development Standards*, provides the general development standards for development proposed within the Specific Plan area. Development Standards are rules or measures pertaining to land uses and zoning that establish a level of quality or quantity that must be complied with or satisfied. These standards specifically allow for a building height of up to seven stories for residential buildings and three stories for the creative office building. Perimeter and interior building setbacks are established for the project and range between 0 to 15 feet. Vehicular parking requirements are included for the project's residential, retail, and creative office uses. The Development Standards also establish the project's floor area ratio (FAR), total landscape coverage area, and total area of amenities. The intent of the Development Standards is to ensure future development within the Specific Plan area meets the vision and goals of the Specific Plan, while satisfying land use performance requirements. Development Standards are also included for the following project components:

- Proposed structures;
- Pedestrian connectivity;
- Parking design, parking structures, loading/unloading areas;
- Mechanical equipment;
- Fences and Walls;
- Outside furniture;
- Lighting;
- Bicycle support facilities;
- Active transportation hub;
- Signage;
- Residential, commercial, and office uses;
- Landscaping;
- Public art; and
- Sustainability.

These regulations would supersede those regulations established by the City's Municipal Code. If the Specific Plan does not address a specific issue, the City's Municipal Code would apply.

Design Guidelines

Specific Plan Section 4, *Design Guidelines*, includes guidelines for site design and building architecture character and identifies the project's landscape design guidelines, including establishing a general tree palette. The Design Guidelines also provide general requirements for the project's proposed open space, public art, and Sunflower Avenue improvements, among other project features. Guidelines on use of hardscape, walls, signage, lighting, and street furniture are also included.

According to the Design Guidelines, key components of the Specific Plan's building architecture character would be clean lines, natural materials, and contemporary color palettes. Guidelines related to building material, color and finishes, building facade modulation, entryways, common and open space areas, storefronts, and other architectural elements are included to unify the project's residential, commercial, and creative office uses.

According to the Design Guidelines, landscaping with the Specific Plan would soften the structural appearance of large buildings and parking areas and provide a unified appearance along Sunflower Avenue. The Design Guidelines also recommend that areas between a building adjacent to Sunflower Avenue and the sidewalk are improved with a combination of softscape and hardscape including, but not limited to, planting beds and boxes, pavers, low shrubs, planter pots, street trees, and other landscape amenities. Based on the project's tree palette, included as Exhibit 4-3 of the Specific Plan, project trees may include, but are not limited to, desert willow (*Chilopsis linearis*), ironwood (*Lyonothamnus floribundus ssp. asplenifolius*), western sycamore (*Platanus racemose*), Fremont cottonwood (*Populus fremontii*), hollyleaf cherry (*Prunus ilicifolia*), coast live oak (*Quercus agrifolia*), Engelmann oak (*Quercus engelmanii*), Goodding's willow (*Salix gooddingii*), Mexican elderberry (*Sambucus mexicana*), California bay (*Umbellularia californica*), and jacaranda (*Jacaranda sp.*). The tree species would reinforce the community's character and would be planted in areas where they could grow to full maturity.

As noted, the project would contain a 1.5-acre open space area within the western portion of the project site. This area is intended as a passive open space area with seating and resting areas, exercise area, creative landscaping, art pieces, and shade structures. The Design Guidelines establish that the open space component should be visible and prominent to the Sunflower Avenue/Cadillac Avenue intersection to soften the community's hardscapes as experienced from this vantage point. The open space component is proposed to have a landscaped articulated edge to provide visual interest, pedestrian-scale amenities, softscape and hardscape, public art, entry monuments, and other features to contribute to the Specific Plan's overall design. The Specific Plan also requires that the open space component links with adjoining outdoor spaces with comfortable paths and walks to create a network of spaces. As noted above, the project would install a new landscaped bicycle trail to connect the southwest portion of the project site to the Santa Ana River Trail. This project component would implement this aspect of the Specific Plan.

Public art (particularly in the open space area) may include all forms of original creations, including, but not limited to, the following media: sculpture (which may be three-dimensional and in any material that is durable); painting; electronic treatments; pavement design; landscape; photography; stained glass; fabric; murals; and, mosaics. Selection of public art would be subject to the City's Cultural Arts Committee approval to ensure the designs for the public art do not result in significant impacts to adjacent communities and vehicles travelling along I-405 Freeway (see PPP AES-1). The Design Guidelines call for artistic treatments to enhance blank building walls, particularly the blank building wall adjacent to I-405 Freeway. Examples of artistic treatments that could be proposed for the length of the structure adjacent to I-405 Freeway include the following:

- A fin system across the building façade that allows landscaping on the structure wall to emerge; an integrated LED lighting system; and exposure of the lower building facade to give the building the appearance of "floating" along I-405 Freeway.

- An open weave pattern made from recycled rubber that covers the building facade; a sub-structure composed of expressed concrete; photovoltaics integrated to generate energy for the lighting scheme; exposure of the lower building facade to give the building the appearance of "floating" along I-405 Freeway; and a projected carbon emissions map integrated across the open weave pattern.

- A photovoltaic, energy-efficient facade composed of multi-colored PV panels that would create a tapestry of color and translucency to the interior; illuminated photovoltaic panels integrated with lighting strips that celebrate the structure facade; integrated photovoltaics to generate energy for the lighting scheme; and exposed, elongated concrete structures at varying angles, along the building façade and an exposed lower level, to allow the building facade to seem to "float" along I-405 Freeway.

Unless properly treated, the proposed public art could result in potentially significant lighting impacts to sensitive receptors. In order to reduce impacts related to public art lighting, the Specific Plan includes Development Standards which specify requirements to ensure exterior lighting is reduced to low levels during nighttime hours; does not generate light spill above 0.5 foot-candles at off-site residential properties; is shielded and directed downward or otherwise directed away from offsite properties; and does not incorporate moving, flashing, or otherwise visually distracting elements. The Development Standards also stipulate that project lighting adjacent to the I-405 Freeway would be required to meet applicable Caltrans standards. Selection of

public art along the I-405 Freeway would be subject to the City's Cultural Arts Committee approval to ensure the designs for the public art do not result in significant light and glare impacts to adjacent communities and vehicles travelling along I-405 Freeway (see PPP AES-1). The Development Standards require an Exterior Lighting Plan is prepared, prior to issuance of the first building permit, that identifies and depicts locations, types, scale, and illumination power of lighting fixtures on all building exteriors. SCA AE-5 would require preparation of a Lighting Plan and Photometric Study for review and approval by the City's Development Services Department. The Lighting Plan and Photometric Study would include performance standards to minimize the project's potential to result in lighting impacts. Despite implementation of PPP AES-1, PPP AES-2, and SCA AES-5, there is a potential for light spillover to adjacent properties. Operational lighting impacts to visual character/quality would be potentially significant in this regard.

The Design Guidelines also include guidelines for the project's proposed improvements to Sunflower Avenue to provide for street trees, planting, and pedestrian-scale amenities. Stamped concrete, exposed aggregate, or colored concrete is encouraged at the Sunflower Avenue/Cadillac Avenue intersection subject to City approval. Design of materials and colors for chairs, tables, display standards, lighting, and other fixtures (including umbrellas and awnings) associated with ground-level commercial uses along Sunflower Avenue would be consistent with the architectural style and colors of the building with commercial/dining establishments and the quality of fixtures used in the public streetscape improvements.

Walls and fences would be designed with materials and finishes that complement community architecture and should be accented with vines, shrubs, and trees. The Design Guidelines propose wall inserts and/or decorative columns or pilasters spaced every 20 feet for all non-transparent perimeter walls to provide relief or other method of aesthetic application of interest.

Specific sign types would be permitted within the Specific Plan, including canopy/awning, projecting, wall-mounted, monument, ground-level, directional, and project entry signs. Special considerations for sign location, size, design, materials, and colors are included by the Design Guidelines. In accordance with SCA AE-4, permits would be required for all signs pursuant to the provisions of the Costa Mesa Sign Ordinance. Freestanding signs would be subject to review and approval by the Planning Division/Development Services Director to ensure compatibility in terms of size, height, and location with the proposed/existing development and existing freestanding signs in the project vicinity

The Design Guidelines indicate decorative paving would be incorporated into parking lot design, driveway entries, pedestrian walkways, and crosswalks within the Specific Plan. Paving materials for the walkways and roadways would complement the project's architectural design. Use of stamped concrete, stone, brick, pavers, exposed aggregate, or colored concrete is encouraged by the Design Guidelines.

The design and placement of exterior lighting would add aesthetic value to the One Metro West community as well as contribute significantly to safety within the community. The Design Guidelines require lighting features to complement exterior building colors and materials, as well as add interest and focal points throughout the project site.

Outside furniture would be unified through color or general appearance and would be selected to complement other elements of the community's design.

Master Plan

The Master Plan serves as a precise plan of development for the project site and provides all project details that are not defined by the Specific Plan Development Standards and Design Guidelines. The Master Plan illustrates and explains the development plans that implement Specific Plan Development Standards and Design Guidelines. The Master Plan includes several graphics which depict the following project aspects:

- Use of hardscape throughout the community;
- Pedestrian connectivity between land uses in the community;
- Community-wide parking;
- Fire protection measures;
- Loading/unloading areas and mechanical equipment locations and screening;
- Wall design and standards;
- Outside furniture design and locations;
- Community-wide lighting;
- Bicycle trails and support facilities;
- Signage design;
- Building(s) architecture and design treatments;
- Landscape and hardscape treatment;
- Sunflower Avenue street scene;
- Open space;
- Public art design and potential locations;
- Sustainability design; and
- Safety design.

Zoning

The project site is currently zoned Industrial Park (MP), which is intended for large, concentrated industrial areas where spacious park-like environments are created. Implementation of the proposed project requires a zone change from MP to Planned Development Residential – High Density (PDR-HD) with a Specific Plan and Master Plan. According to Municipal Code Section 13-20, *Zoning Districts*, PDR-HD districts are intended for multi-family residential developments containing any type or mixture of housing units, either attached or detached, including but not limited to clustered development, townhouses, patio houses, detached houses, duplexes, garden apartments, high rise apartments, or common interest developments. Complementary non-residential uses could also be included in the planned development. As such, the proposed zoning district would allow a mix of residential and non-residential uses and site-specific development standards pursuant to the proposed Specific Plan. Upon City approval of the proposed zone change, the project would be consistent with the Zoning Ordinance.

As discussed previously, the Development Standards and Design Guidelines included in the Specific Plan would supersede zoning requirements established by the City's Municipal Code. If the Specific Plan does not address a specific issue, the City's Municipal Code requirements for the PDR-HD district would apply. As such, the

proposed project would not conflict with zoning regulations governing scenic quality as the Specific Plan and Master Plan establish the regulatory framework, including Development Standards and Design Guidelines, for development of the proposed project. Impacts would be less than significant.

General Plan Scenic Quality Policies Consistency Analysis

Table 5.1-1, *Project Consistency with the Costa Mesa General Plan*, provides a consistency analysis of the proposed project and relevant General Plan goals, objectives, and policies pertaining to scenic quality.

Table 5.1-1 Project Consistency with the Costa Mesa General Plan

General Plan Goal and Policies	Project Compliance
Goal CD-1 *Strengthen the image of the City as experienced from sidewalks and roadways.*	***Consistent.*** The Specific Plan's design objectives encourage pedestrian and human-scale development on the project site and provide development standards and design guidelines to encourage pedestrian connectivity. As discussed above, the proposed project includes pedestrian and bicycle lane improvements on Sunflower Avenue and would provide a path connecting the Santa Ana River Trail to Sunflower Avenue. Pedestrian amenities would be provided on-site, including walking paths, lighting, wayfinding, and a 1.5-acre open space area. Additionally, Building B and Building C would provide pedestrian-scale architectural design by providing ground-floor retail space and residential units oriented toward Sunflower Avenue. The proposed project would be consistent with this goal.
Objective CD-1A *Contribute to City beautification by enhancing the visual environment of Costa Mesa's vehicular and pedestrian paths and corridors.*	***Consistent.*** Currently, the site is developed with an industrial building. Views along the existing driveways show minimal landscaping, chain link fencing, loading docks, and surface parking. Site access is limited by the fence and gates across the driveways. Views from I-405 Freeway show the grassy turf on the south side of the project site and the existing industrial building. The proposed project would open the site, visually and physically, compared to existing conditions. The proposed project would include the development of contemporary-style buildings, landscaping, lighting, and wayfinding. The proposed project would include artistic treatments for the Building "A" parking elevation (facade) along I-405 Freeway (see PPP AES-1). As such. the proposed project would enhance the visual environment of Costa Mesa's vehicular and pedestrian paths and corridors. The proposed project would be consistent with this objective.
Policy CD-1.3 *Promote treatments for walls and fences and utility cabinets along public rights-of-way that contribute to an attractive street and sidewalk environment. Require that new walls and fences complement the style and character of the local district and adjacent buildings. Newly constructed or reconstructed walls and fences adjacent to sidewalks and roadways should incorporate architectural treatments such as pilasters, masonry, or wrought iron, and should integrate tiered plantings to soften their appearance.*	***Consistent.*** From Sunflower Avenue, the proposed project would remove the existing fence and open the site to the street. The proposed project would include artistic treatments for the Building "A" parking elevation (facade) along I-405 Freeway (see PPP AES-1). Utility cabinets and mechanical equipment would be screened from view, and SCA AE-3 would ensure the project's exterior features do not detract from the architecture by prohibiting roof access ladders, roof drain scuppers, and roof drain downspouts. The proposed project includes a contemporary design that would complement the surrounding buildings while serving as a gateway to the City. The proposed project would be consistent with this policy.
Policy CD-1.4 *Promote a consistent landscape character along City streets to reinforce the unique qualities of each corridor and district, including the development of landscaped medians. Support implementation of the recommended street tree palette for each City street, as identified in the City of Costa Mesa Streetscape and Median Development Guidelines.*	***Consistent.*** The project proposes several improvements along Sunflower Avenue that would enhance the visual quality along the project frontage. Upgrades to Sunflower Avenue would include placing the existing Southern California Edison 66-kilovolt utility lines underground and implementing a new pedestrian sidewalk and protected bicycle lane. Extensive landscaping would also be planted

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Table 5.1-1 Project Consistency with the Costa Mesa General Plan, continued

General Plan Goal and Policies	Project Compliance
	along the southern side of Sunflower Avenue adjacent to the project frontage. The Specific Plan includes landscape development standards and design guidelines which would be consistent with the City's Streetscape and Median Development Guidelines (see PPP AES-2).
Policy CD-1.5 *Encourage electric and communication lines to be placed underground and electrical substations and telephone facilities to be screened to minimize visual impacts from sidewalks, streets, and adjacent properties. Support utility undergrounding through conditions of project approval, preparation of undergrounding plans, and the formation of assessment districts*.	***Consistent.*** The project proposes to underground existing Southern California Edison electric pole lines along the project frontage in Sunflower Avenue.
Goal CD-2 *Enhance the existing character and strengthen the identity of Costa Mesa's districts.*	***Consistent.*** The proposed project is located in the Harbor Gateway District, which is described as having an office park character, with ample landscaping and large multi-story building complexes. The proposed project provides a mixed-use development with a contemporary design and four multi-story buildings. Ample landscaping would be incorporated throughout the site and as part of the project's off-site improvements to Sunflower Avenue. The design of the proposed project would complement the Harbor Gateway District and contribute to the image, identity, and character of the District and City. As stated in the Specific Plan, a goal of the project is to "contribute a positive physical image and identity of the community vicinity in North Costa Mesa from I-405 Freeway and neighboring properties." Additionally, the proposed project would enhance the existing character of the district by replacing industrial uses with a contemporary designed project that would be highly visible from the surrounding area, including I-405 Freeway and SOCO. The proposed project would be consistent with this goal.
Objective CD-2A *Encourage future development and redevelopment to reinforce district scale, identity, and urban form.*	***Consistent.*** While the proposed project would be taller than neighboring buildings in its vicinity, the proposed project would include architectural design elements, such as step backs, differentiated building materials, and landscaping, to visually break up the massing of the proposed project and visually reinforce the scale of the district. As discussed in the Specific Plan, the proposed project is designed to be pedestrian scale and reinforce a "sense of place." The project's contemporary design, architectural materials, and landscaping would reinforce the District's identity and urban form. The proposed project would be consistent with this objective.
Policy CD-2.2 *Support and seek land uses and development that correspond or enrich our existing districts.*	***Consistent.*** Refer to discussion for Goal CD-2, above. The proposed project would be consistent with this policy.
Policy CD-3.2 *Reinforce a sense of arrival into the City by promoting architecturally significant development and significant landscape plantings at key nodes. Undertake a visioning process to develop specific design guidelines that articulate the desired character for each node within Costa Mesa.*	***Consistent.*** As detailed in the Specific Plan, a primary community entry to the project site would provide a sense of arrival. The entry design would be attractive and functional and convey a ceremonial sense of entry that reflects the community image and identity. Physical elements of an entry, including roadway archways, paving materials, signs, and landscape planting, would be considered and function together to physically define the entry.

Table 5.1-1 Project Consistency with the Costa Mesa General Plan, continued

General Plan Goal and Policies	Project Compliance
Policy CD-4.1 *Support efforts to introduce new monuments and landmarks, and preserve, maintain, and improve the condition of Costa Mesa landmarks.*	***Consistent.*** The Community Design Element defines landmarks as "a physical element that provides a point of reference or serves as a community identity marker. A landmark can be a structure, space, or natural feature that helps identify a particular area in the City. Most landmarks are also main destination locations within the City as well." SOCO, which is located immediately adjacent to the project site to the east, is identified as a landmark site. The proposed project would support this existing landmark by developing well-designed mixed-use development with contemporary architecture, improvements to Sunflower Avenue, and landscaping. The proposed project would also provide increased landmark visibility along I-405 Freeway through proposed architectural treatments along the Building "A" parking structure facade (see PPP AES-1). The proposed project would be consistent with this policy.
Goal CD-5 *Utilize Costa Mesa's edges as opportunities to enhance the City's image along its boundaries.*	***Consistent.*** Goal CD-5 relates to the City's edges, which the Community Design Element defines as "linear elements that serve as a visual or physical boundary, barrier, or transition between districts and that define the boundaries of a place" (p. CD-16). The Community Design Element specifically identifies the Santa Ana River and I-405 Freeway. The project site is adjacent to I-405 Freeway to the south and is in close proximity to the Santa Ana River to the west. The proposed project would include artistic treatments for the Building "A" parking elevation (facade) along I-405 Freeway (see PPP AES-1). Landscaping would be highly emphasized along the perimeter of the site as visible from I-405 Freeway. As such, the proposed project would enhance the City's image along I-405 Freeway. Additionally, the project would install a new landscaped bicycle trail to connect the southwest portion of the project site to the Santa Ana River Trail. As such, the proposed project would enhance the City's image along its boundaries. The proposed project would be consistent with this goal.
Objective CD-5A *Develop and implement programs that preserve and enhance City edges.*	***Consistent.*** Refer to the discussions for Goal CD-5 and Policy CD-5.1. The proposed project would be consistent with this objective.
Policy CD-5.1 *Preserve and optimize natural views and open spaces in Costa Mesa.*	***Not Applicable.*** The project site does not contain natural views or open spaces; however, the project would provide a 1.5-acre open space area on the western portion of the project site with amenities, including seating and resting areas, creative landscaping, shade structures, and art pieces.
Goal CD-6 *Enhance opportunities for new development and redevelopment to contribute to a positive visual image for the City of Costa Mesa that is consistent with the district image.*	***Consistent.*** Refer to the discussions above. The proposed project would redevelop the site with well-designed contemporary buildings and landscaping and would contribute to a positive visual image of the City of Costa Mesa. As detailed in the Specific Plan, public art would be incorporated throughout the project site, including within the open space and along the walking paths. In addition, the proposed project would include artistic treatments for the Building "A" parking elevation (facade) along I-405 Freeway (see PPP AES-1). Pursuant to SCA AE-1, the City would verify the proposed project is architecturally compatible (pertaining to building materials, style, colors, etc.) with the existing surrounding development and consistent with the One Metro West Specific Plan during the plan check review process. The proposed project would be consistent with this goal.
Policy CD-6.1 *Encourage the inclusion of public art and attractive, functional architecture into new development that will have the effect of promoting Costa Mesa as the "City of the Arts."*	***Consistent.*** Refer to the discussion for Goal CD-6, above. The proposed project would be consistent with this policy.

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Table 5.1-1 Project Consistency with the Costa Mesa General Plan, continued

General Plan Goal and Policies	Project Compliance
Policy CD-6.2 *Encourage the use of creative and well-designed signs that establish a distinctive image for the City.*	***Consistent.*** The Specific Plan outlines development standards and design guidelines for the use of signs throughout the project site. The Specific Plan would ensure signs on-site would be creative and well-designed. The proposed project would also include entry, directional, identification, and open space signage to provide for wayfinding and placemaking. Pursuant to SCA AE-4, permits would be required for all signs according to the provisions of the Costa Mesa Sign Ordinance. Freestanding signs would be subject to review and approval by the Planning Division/Development Services Director to ensure compatibility in terms of size, height, and location with the proposed/existing development and existing freestanding signs in the project vicinity. The proposed project would be consistent with this policy.
Policy CD-7.2 *Preserve the character and scale of Costa Mesa's established residential neighborhoods where possible; when new residential development is proposed, encourage that the new structures are consistent with the prevailing character of existing development in the immediate vicinity, and that new development does not have a substantial adverse impact on adjacent areas.*	***Consistent.*** The proposed project is not located within a residential neighborhood and would, therefore, not conflict with the character and scale of established residential neighborhoods. The proposed project would redevelop the site with well-designed contemporary residential buildings consistent with the prevailing character of existing development in the immediate vicinity, particularly SOCO to the east. The proposed project would be consistent with this policy.
Policy CD-8.8 *All required parking areas and driveways shall be illuminated under the direction of the planning division. Lights used to illuminate parking areas shall be directed away from any adjoining premises located in any residential zone under the direction of the planning division.*	***Consistent.*** Parking for these components would be provided interior to the buildings on-site. Parking areas would be illuminated as outlined in the Specific Plan. No residential zones immediately abut the project site. The proposed project would be consistent with this policy.
Goal CD-9 *Promote development of mixed-use projects that seamlessly integrate multiple uses both functionally and aesthetically.*	***Consistent.*** The proposed project includes a mixed-use development that includes residential, retail, and creative office uses and a open space. The design of the proposed project would create a cohesive aesthetic and visual character that seamlessly integrates the on-site uses. The components of the project and on-site amenities functionally support the project's uses and invites visitors to the site due to its location near a popular commercial area and open space. Functionally, the project would enhance the immediate area by providing residential uses within a major employment center. The proposed project would be consistent with this goal.
Objective CD-9A *Design mixed-use development projects to achieve a high quality character.*	***Consistent.*** The proposed project is designed to achieve a high quality of character. One of the goals of the Specific Plan is to contribute positively to the image and character of Costa Mesa. The Specific Plan's design and development standards would regulate the project's building height, massing, architectural treatments, materials, facade details, landscaping, and wayfinding signage. The proposed project would be consistent with this objective.
Policy CD-9.1 *Require that mixed-use development projects be designed to mitigate potential conflicts between uses. Consider noise, lighting, and security.*	***Consistent.*** Refer to the discussion for Impact 5.1-2. The proposed project would be consistent with this policy.
Policy CD-9.2 *Provide adequate parking, open space, and recreational facilities to serve residents in mixed-use development projects. Design parking and other areas to acknowledge different users (residents versus shoppers) and to be compatible with the architectural character of the building(s).*	***Consistent.*** Development of the proposed project would result in a mix of uses, including residential, creative office, and supporting retail uses. Proposed recreational facilities would include a mix of private and public facilities to support the project. Private facilities include amenities such as pool, fitness gym, bowling alley, and BBQ areas. Public amenities include a 1.5-acre open space available for public use, trail connection improvements, and bicycle facilities along Sunflower Avenue. Parking design accommodates shared parking facilities with residents and creative office uses, as well as dedicated residential parking areas. Parking structure entrances, open space, and recreational components

Table 5.1-1 Project Consistency with the Costa Mesa General Plan, continued

General Plan Goal and Policies	Project Compliance
	of the project would be designed to be visually consistent with the architectural character of the buildings proposed. The proposed project would be consistent with this policy.

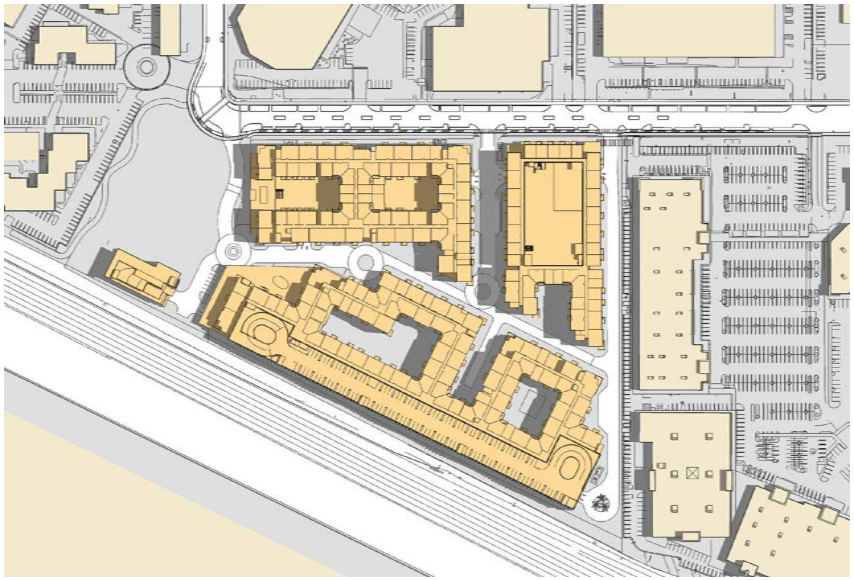
Sources: Costa Mesa 2016; One Metro West Specific Plan

As demonstrated in Table 5.1-1, the proposed project is consistent with the City's applicable goals, objectives, and policies related to scenic quality. Impacts would be less than significant in this regard.

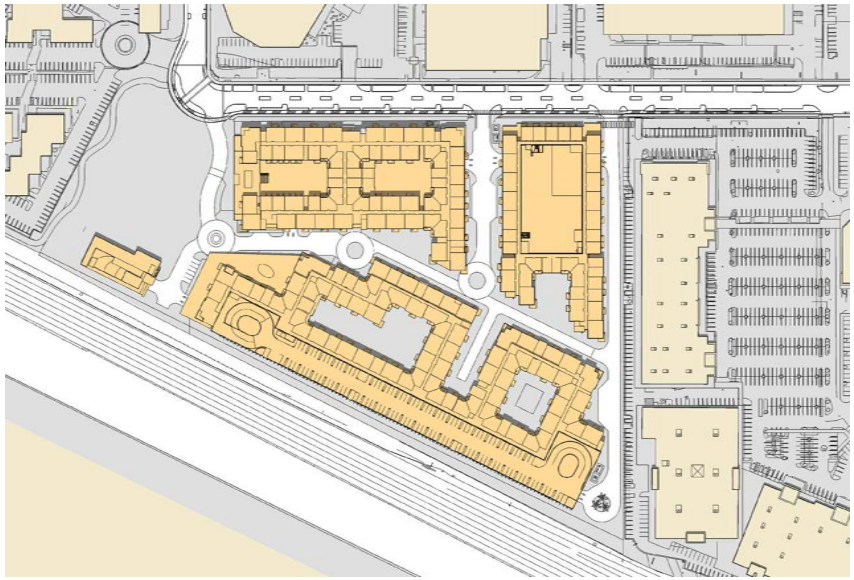
Shade/Shadow Analysis

In order to identify the proposed project's potential increase in shadow-related impacts, morning, noon, afternoon, and evening shade patterns were compared for the proposed project. Specifically, four dates were used for analysis purposes: the winter solstice (December 21), when the sun is at its lowest; the summer solstice (June 21), when the sun is at its highest; and the vernal and autumnal equinoxes (March 21 and September 21), when day and night are of approximately equal length. The longest shadows are cast during the winter months, and the shortest shadows are cast during the summer months. The following discussion describes the project's potential to result in shadow-related impacts during the summer/winter solstices and vernal/autumnal equinoxes. Note that the analysis considers shadow effects associated with proposed building massing only; the shadow patterns associated with proposed landscaping are not addressed.

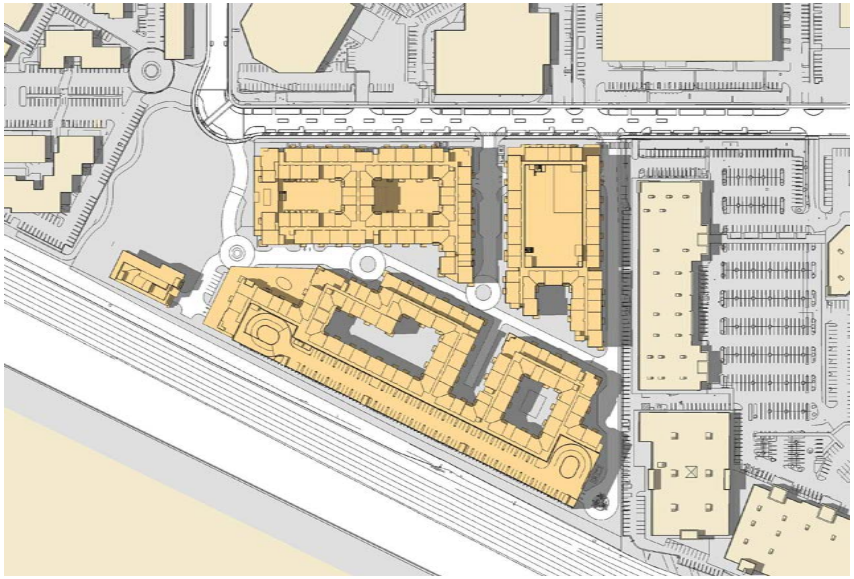
The project's shade/shadow patterns throughout the year are generally described in Figure 5.1-2 through Figure 5.1-5, *Proposed Shade/Shadow Patterns*. As illustrated, the only areas that would be substantially shaded include Sunflower Avenue right-of-way in the fall, winter, and spring months. However, this area is not considered shadow sensitive. Implementation of the proposed project would not result in any significant shading of light-sensitive uses (uses where sunlight is important for function). Therefore, impacts would be less than significant.



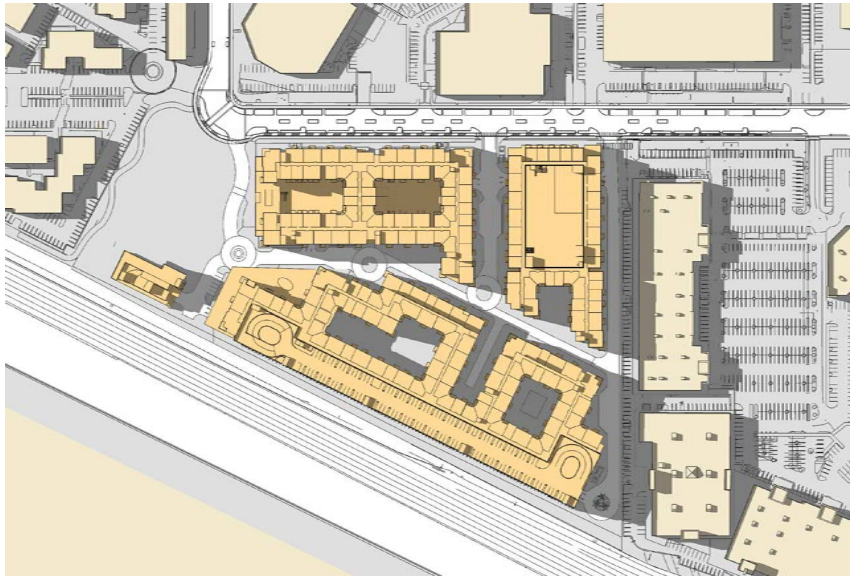
9am - June 21st



12pm - June 21st



3pm - June 21st



5pm - June 21st

Source: Rose Equities, 2019.

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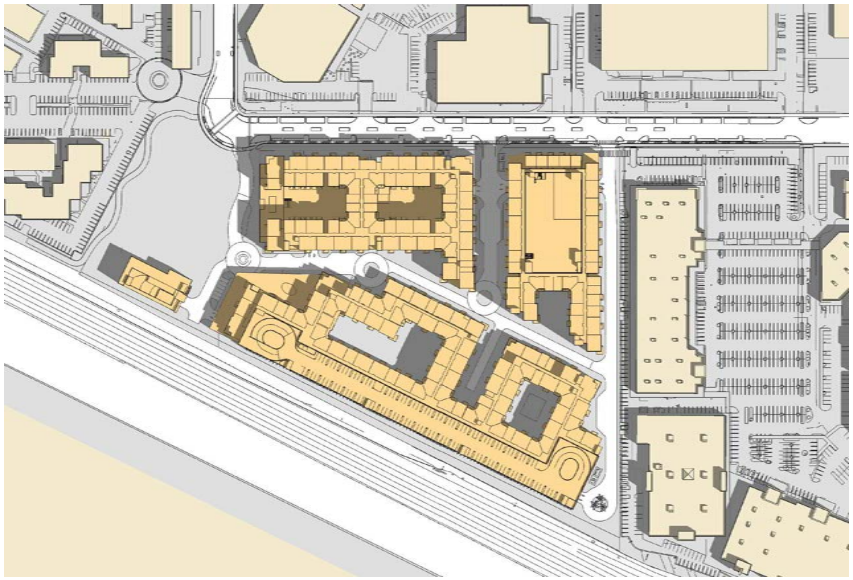
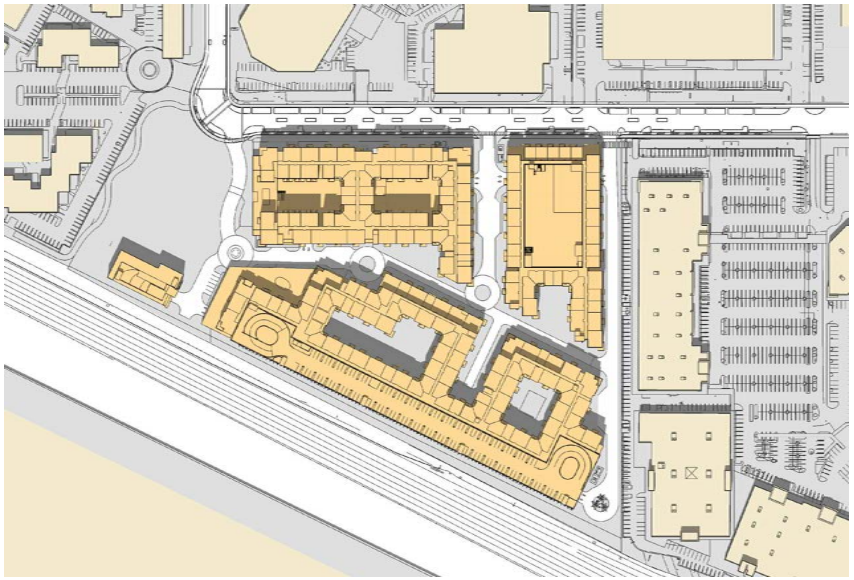
ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Proposed Shade/Shadow Patterns – Summer Solstice

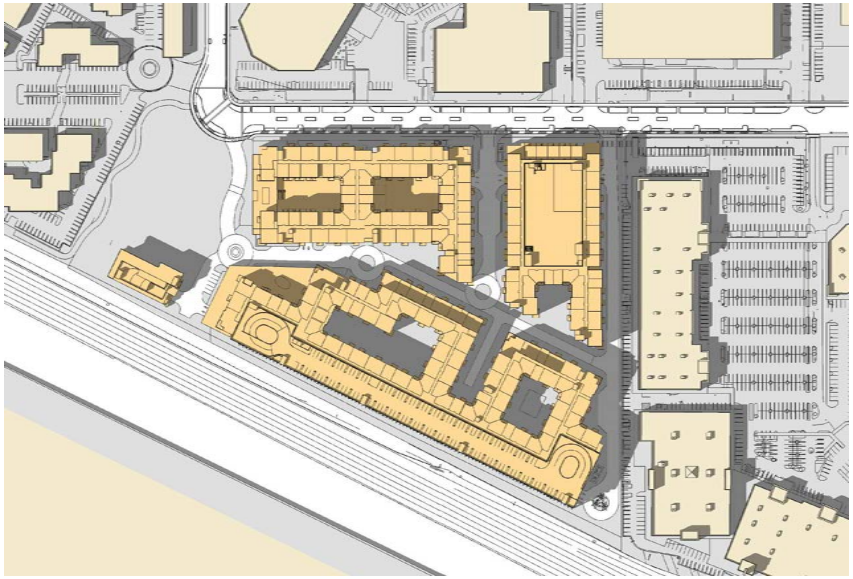
Figure 5.1-2



9am - September 21st



12pm - September 21st



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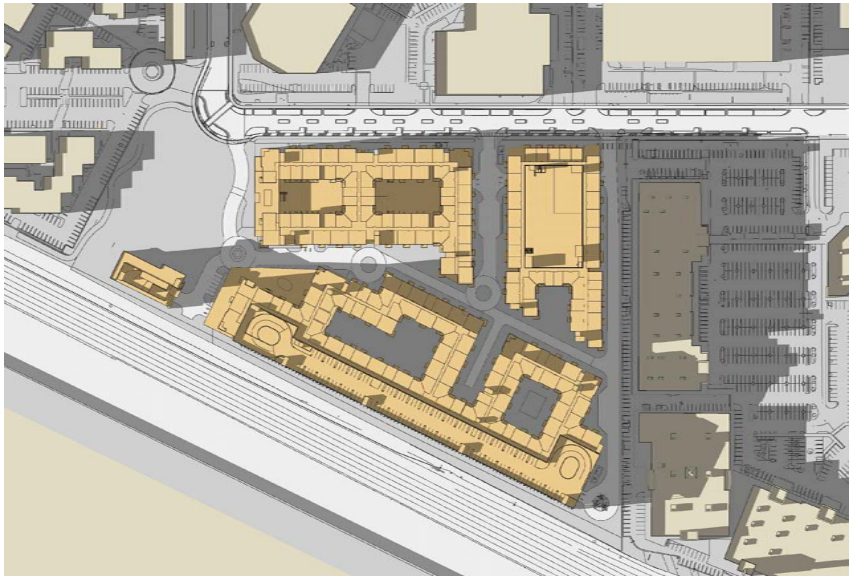

5pm - September 21st

Source: Rose Equities, 2019.

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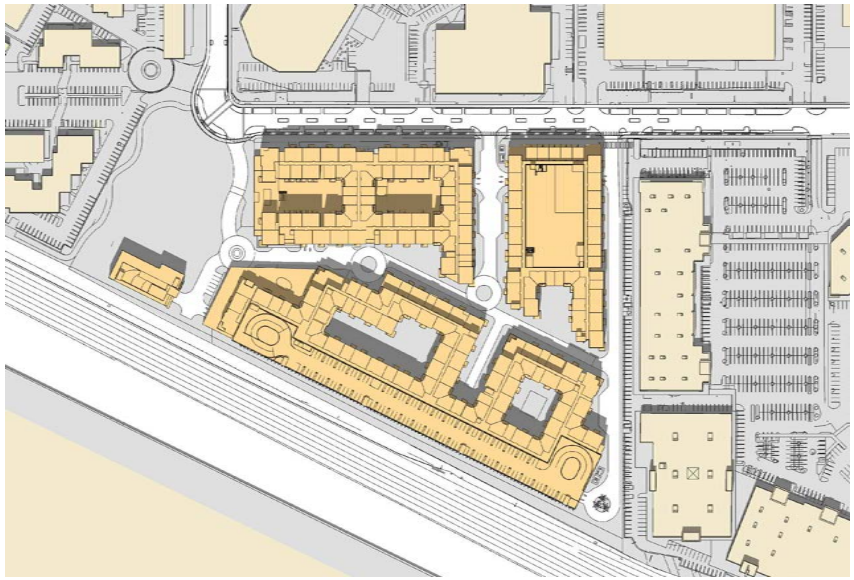
ENVIRONMENTAL IMPACT REPORT

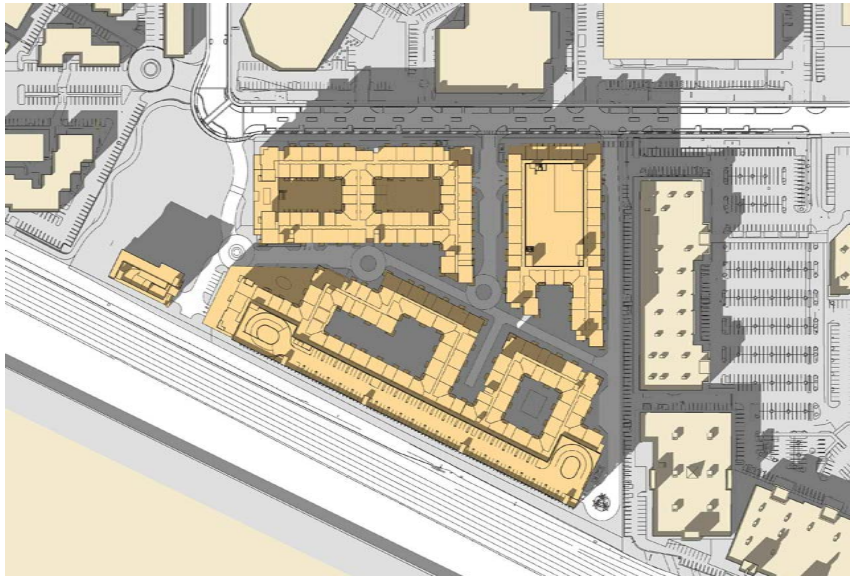
Proposed Shade/Shadow Patterns – Autumnal Equinox

Figure 5.1-3

9am - December 21st



12pm - December 21st



3pm - December 21st

Source: Rose Equities, 2019.

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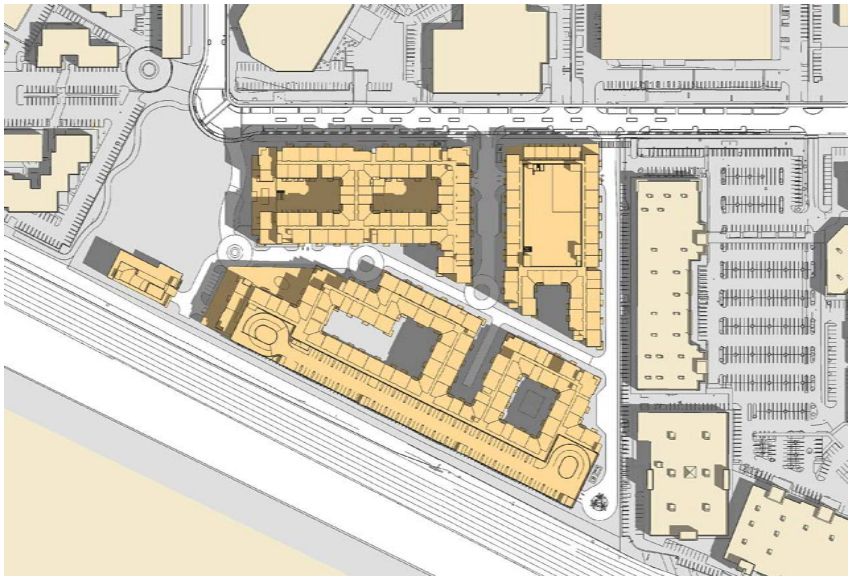
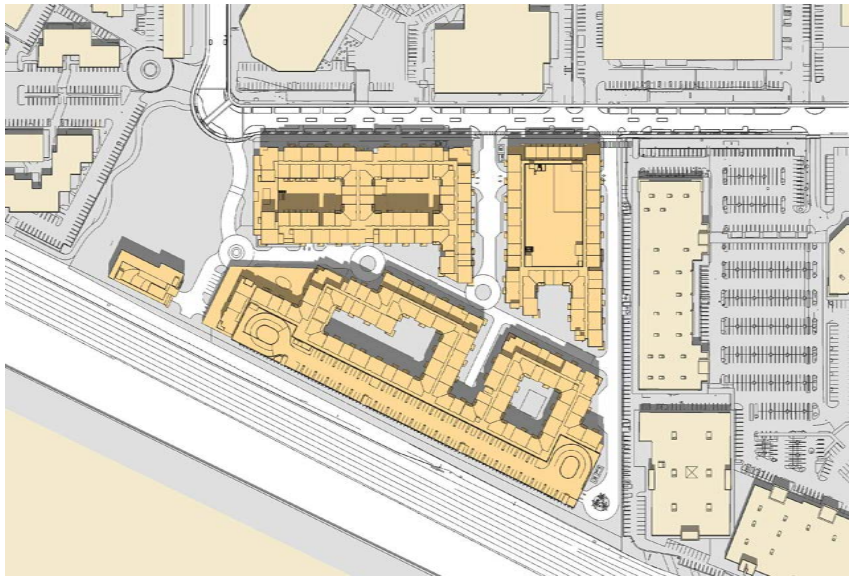
ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Proposed Shade/Shadow Patterns – Winter Solstice

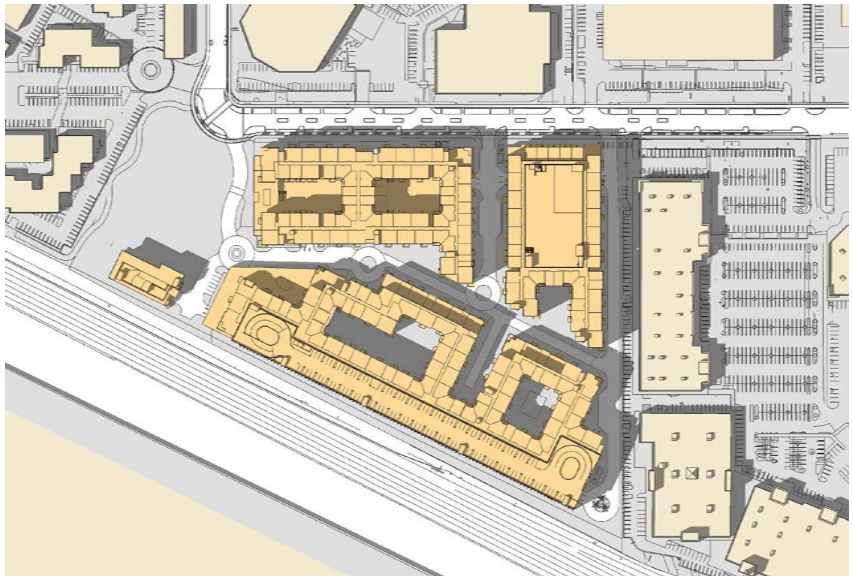
Figure 5.1-4



9am - March 21st



12pm - March 21st



3pm - March 21st

Source: Rose Equities, 2019.

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ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Proposed Shade/Shadow Patterns – Vernal Equinox

Figure 5.1-5

Conclusion

The proposed project would not conflict with applicable zoning or other regulations governing scenic quality and would not result in significant shade/shadow impacts to off-site uses. The proposed project, although a change to the existing visual quality of the site, would create an attractive, well-designed mixed-use project with high quality details and design articulation, landscaping, and streetscaping. Provisions of the proposed project, including the Development Standards, Design Guidelines, and Master Plan, would ensure design details of the proposed project are context-sensitive and of high quality in terms of materials and craftsmanship. Development of the proposed project would also be subject to several Standard Conditions of Approval in place to minimize aesthetic impacts. For example, the City would verify future development associated with the project is architecturally compatible with regard to building materials, style, colors, etc., with the existing surrounding development and consistent with the One Metro West Specific Plan during the plan check process (see SCA AE-1). SCA AE-2 would ensure no modification(s) of the approved building elevations, including, but not limited to, changes that increase the building height, changes in building articulation, or a change of the finish material(s), are made during construction without prior Planning Division written approval. SCA AE-3 would ensure the project's exterior features do not detract from the architecture by prohibiting roof access ladders, roof drain scuppers, and roof drain downspouts. These standard conditions would ensure the project is compatible with existing development within the Harbor Gateway District. Impacts would be less than significant in this regard.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.1-2: The proposed project could create a substantial new source of light and glare. [Threshold AE-4]

A significant impact may occur if lighting, as part of the proposed project, exceeds adopted thresholds for light and glare, including exterior lighting or light spillover, or if the proposed project creates a substantial new source of light or glare. Residential uses to the south of the project site represent the closest light-sensitive uses to the project.

Construction

Pursuant to Municipal Code Section 13-279, *Exceptions for Construction*, construction hours are limited to 7:00 a.m. to 7:00 p.m. Monday through Friday and 9:00 a.m. through 6:00 p.m. Saturdays unless a temporary nighttime construction waiver is approved by the City's Development Services Director (see PPP N-2). Construction is not allowed on Sundays and specified Federal holidays. As PPP N-2 would prohibit construction during the evening hours, and nighttime construction is not proposed (refer to Section 3.4.2, *Project Construction Timeline*), construction of the proposed project is not anticipated to result in new sources of light or glare. Impacts would be less than significant in this regard.

Operation

Nighttime illumination and glare impacts are the effects of a project's exterior lighting upon adjoining uses. Operation of the project could result in impacts related to nighttime lighting, including towards sensitive residential uses to the south of the project site.

The proposed project is located within a developed area of the City and currently developed with an industrial building. As a result, various sources of light and glare are present in the area. As stated, the existing character of the area includes several sources of artificial lighting, including interior lighting, landscaping lighting (highlighting signage, pathways, signs, and trees), parking lot lighting, security lighting, signs at SOCO, and streetlighting, especially along I-405 Freeway. Light and glare from vehicles on local streets, parking lots, and I-405 Freeway are also present. Substantial traffic and light fixtures along I-405 Freeway contribute to existing light and glare. Existing light and glare in the project area are typical for an urban area.

Project implementation would result in additional sources of lighting through the development of new residential structures, an office building, and open space amenities. New sources of light would emanate from residential and communal building interiors and exterior sources, including building illumination, parking and security lighting, and landscape lighting. Lighting would also be used to illuminate pedestrian paths and parking areas and highlight architectural features. Lighting and building finishes would be carefully selected and designed to avoid creating glare. The most visible source of lighting of the project site from the residences south of I-405 Freeway would emanate from exterior lighting on Building A and interior parking structure lighting along the southern edge of the site. Parking structure lighting would be designed to minimize light spillover and installed to concentrate light on pedestrian and vehicle aisles and ramps with spillover lighting adequate to illuminate parking stalls (see PPP AES-2). Further, in order to reduce impacts related to light and glare from the parking facade, the Specific Plan includes Development Standards which specify project lighting requirements to ensure exterior lighting is shielded and directed downward, or otherwise directed away from off-site properties. The Development Standards also stipulate that project lighting adjacent to the I-405 Freeway would be required to meet applicable Caltrans standards. An Exterior Lighting Plan would be required, prior to issuance of the first building permit, that identifies and depicts locations, design, types, scale, and illumination power of lighting fixtures, including on all building exteriors and within the open space/trail connection areas. SCA AE-5 would require preparation of a Lighting Plan and Photometric Study for review and approval by the City's Development Services Director. The Lighting Plan and Photometric Study would include performance standards to minimize the project's potential to result in lighting impacts. Such standards include the following:

- The intensity and location of lights on buildings would be limited to minimize nighttime light and glare to off-site residents.

- All site lighting fixtures would include a flat glass lens. Photometric calculations would indicate the effect of the flat glass lens fixture efficiency.

- Lighting design and layout would limit light spillage to no more than 0.5 foot-candles at the property line of off-site residential properties. The level of on-site lighting would be as determined necessary for safety and security purposes. Light standards would be located and oriented in such a way as to minimize light

spillage onto surrounding properties. Light would be shielded and pointed downward or otherwise directed away from off-site properties.

- The intensity of the parking deck lighting and lighting associated with any public art installation visible from off-site residential properties would be reduced to low levels from 9:00 p.m. until dawn each day to minimize lighting impacts to off-site residential properties.

- Illuminated signs visible from off-site residential properties would be completely shut off at 10:00 p.m., seven days a week.

Despite implementation of PPP AES-1, PPP AES-2, and SCA AES-5, there is a potential for light spillover to adjacent properties, particularly with regard to the I-405 Freeway facade for Building A. Operational impacts related to lighting would be potentially significant in this regard.

Future development consistent with the proposed Specific Plan would also introduce new potential sources of glare (i.e., new building materials) and new roadways, driveways, and parking structures that could result in glare impacts from vehicle headlights. It is acknowledged that existing similar building materials and vehicle headlights are already experienced in the area, including SOCO to the east. However, the project would propose additional building massing. The Development Standards include building and pavement surface requirements to minimize impacts related to glare, including use of low-glare paving, surfaces, and windows (see PPP AES-2). The project's proposed parking structure would be screened from view of residential uses to the south through the use of screening features; refer to Impact 5.1-1. Thus, potential new sources of glare would be less than significant.

Level of Significance Before Mitigation: Potentially Significant Impact.

5.1.5 Cumulative Impacts

The cumulative impacts discussed below rely upon the list of cumulative development projects included in Table 4-2, *Related Projects*. The nearest cumulative projects to the project site identified in Table 4-2 is the Harbor Gateway Industrial Building (Cumulative Project 3) and the Press Project (Cumulative Project 5); refer to Figure 4-1, *Cumulative Projects*.

Impact 5.1-3: Development of the proposed project and related projects could conflict with applicable zoning and other regulations governing scenic quality. [Threshold AE-3]

All cumulative projects would be required to show consistency with applicable City development and design plans, including the City's zoning requirements. All cumulative development would be subject to SCA AE-1, which would ensure future development is architecturally compatible with regard to building materials, style, colors, etc., with the existing surrounding development. SCA AE-2 would make certain that no modification(s) to approved building elevations, including, but not limited to, changes that increase the building height, removal of building articulation, or a change of the finish material(s), are made during construction without prior Planning Division written approval. SCA AE-3 would make sure the exterior features do not detract from the

architecture by prohibiting roof access ladders, roof drain scuppers, and roof drain downspouts. These processes would ensure compliance with the City's desired architectural styles, color schemes, materials, etc., for these specific areas. As a result, related development would not result in cumulatively considerable long-term visual impacts.

As concluded in Impact 5.1-1, implementation of the proposed project would result in less than significant impacts pertaining to zoning and other regulations governing scenic quality upon compliance with the Specific Plan Design Guidelines, and Development Standards, Master Plan, and Standard Conditions of Approval. However, implementation of the proposed public art could result in potentially significant lighting impacts to visual character/quality. Thus, impacts would be cumulatively considerable.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.1-4: Development of the proposed project and related projects could create a new substantial source of light and glare. [Threshold AE-4]

Development of cumulative projects could result in increased lighting and glare in the City. General Plan Community Design Policy CD-8.1.H and Municipal Code Section 13-49 require outdoor lights to be shielded to avoid spillover onto adjacent properties and specifically, to be directed away from residential areas. Potential impacts would be minimized on a project-by-project basis, which would ensure proper lighting fixtures, placement, and minimal spillover. As a result, related development would not result in cumulatively considerable light and glare impacts.

As discussed in Impact 5.1-2, selection of public art along the I-405 Freeway would be subject to the City's Cultural Arts Committee approval (see PPP AES-1). As required by the Specific Plan Development Standards, an Exterior Lighting Plan would be prepared, prior to issuance of the first building permit, to identify and depict locations, types, scale, and illumination power of lighting fixtures on all building exteriors and within the open space/trail connection areas (see PPP AES-2). SCA AE-5 would require preparation of a Lighting Plan and Photometric Study for review and approval by the City's Development Services Department. Nonetheless, there is a potential for light spillover to adjacent properties, particularly as a result of the Building A facade along the I-405 Freeway. Impacts would be cumulatively considerable in this regard.

As discussed in Impact 5.1-2, the project's operational glare impacts would be less than significant with implementation of the Specific Plan Development Standards. Further, construction activities would not result in new sources of light and glare following conformance with the Municipal Code's allowable construction hours. Any construction work outside of the allowable hours would be subject to review by the Development Services Director to ensure nighttime construction would not result in light and glare. As such, the proposed project would not significantly contribute to cumulative construction-relative lighting impacts or operational glare impacts.

Level of Significance before Mitigation: Potentially Significant Impact.

5.1.6 Level of Significance Before Mitigation

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.1-1**: The proposed project could conflict with applicable zoning and other regulations governing scenic quality.
- **Impact 5.1-2**: The proposed project could create a substantial new source of light and glare.
- **Impact 5.1-3**: Development of the proposed project and related projects could conflict with applicable zoning and other regulations governing scenic quality.
- **Impact 5.1-4**: Development of the proposed project and related projects could create a new substantial source of light and glare

5.1.7 Mitigation Measures

AE-1 Prior to the issuance of the first building permit, the City's Development Services Department shall verify that the Applicant's Lighting Plan and Photometric Study prepared as part of SCA AE-5 demonstrates compliance with the following:

- The mounting height of lights on light standards shall not exceed 18 feet in any location on the project site unless approved by the Development Services Director.
- Rooftop lighting shall include cutoff optics to ensure lighting is aimed downward and does not contribute to sky brightness or skyglow.
- Parking structure lighting shall use shielding techniques to focus light into the parking lot areas and screen light from spilling to off-site areas, eliminating light trespass.
- The parking structure facade artistic treatment shall include light shields or baffles to eliminate glare to travelers along to I-405 Freeway. Illumination levels shall not exceed 100 candelas per meter squared.
- Exterior building lighting shall not exceed the Caltrans maximum brightness of 350 candelas per meter squared as measured from the adjacent freeway shoulder.

5.1.8 Level of Significance After Mitigation

Impact 5.1-1

As noted in Impact 5.1-1, despite review of the project's public art and implementation of the project's Exterior Lighting Plan and Lighting Plan and Photometric Study (see PPP AES-1, PPP AES-2, and SCA AES-5), there is a potential for the project's public art to result in light spillover to adjacent properties. As a result, implementation of Mitigation Measure AE-1 would be required. Mitigation Measure AE-1 would ensure the project's Lighting Plan and Photometric Study required under SCA AES-5 include additional lighting performance measures to demonstrate the project lighting meets minimum security lighting requirements and minimizes lighting impacts to surrounding uses. Specifically, Mitigation Measure AE-1 would ensure the parking structure facade artistic treatment includes light shields or baffles to eliminate glare to travelers along to I-405 Freeway and limits illumination levels to 100 candelas per meter squared. With implementation of Mitigation Measure AE-1, impacts would be reduced to less than significant levels.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.1-2

As noted in Impact 5.1-2, project implementation would result in additional sources of lighting. Despite review of the project's public art and implementation of the project's Exterior Lighting Plan and Lighting Plan and Photometric Study (see PPP AES-1, PPP AES-2, and SCA AES-5), there is a potential for light spillover to adjacent properties. As a result, implementation of Mitigation Measure AE-1 would be required. Mitigation Measure AE-1 would ensure the project's Lighting Plan and Photometric Study required under SCA AES-5 include additional lighting performance measures in order to demonstrate that the project lighting meets minimum security lighting requirements and minimizes lighting impacts to surrounding uses. With implementation of Mitigation Measure AE-1, impacts would be reduced to less than significant levels.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.1-3

Refer to the discussion for Impact 5.1-1, above. With implementation of Mitigation Measure AE-1, potential lighting impacts associated with the project's public art would be less than significant and would not be cumulatively considerable.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.1-4

Refer to the discussion for Impact 5.1-2, above. With implementation of Mitigation Measure AE-1, the project's lighting impacts would be less than significant and would not be cumulatively considerable.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

5. Environmental Analysis
AESTHETICS

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Chapter 5.2 Air Quality

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5.2 AIR QUALITY

This section of the Draft EIR provides a project-specific air quality impact analysis by examining the impacts of the proposed project on the region and nearby sensitive uses. The analysis in this section is based in part on the following information:

- *Air Quality and Greenhouse Gas Impact Analysis, One Metro West Project, Costa Mesa, California* (Air Quality/GHG Report), prepared by LSA and dated January 2020.

A complete copy of this study is provided in this Draft EIR (Volume II, Appendix C, *Air Quality and Greenhouse Gas Impact Analysis*).

5.2.1 Environmental Setting

5.2.1.1 REGULATORY BACKGROUND

Federal and State

Ambient Air Quality Standards

Both the State and Federal governments have established health-based ambient air quality standards (AAQS) for seven air pollutants. As detailed in Table 5.2-1, *Ambient Air Quality Standards*, these pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in size (PM_{10}), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 5.2-1 Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[2]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1-Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		150 µg/m³	Same as Primary Standard	
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	

5. Environmental Analysis
AIR QUALITY

Table 5.2-1 Ambient Air Quality Standards, continued

Pollutant	Averaging Time	California Standards[2]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[10]	1-Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemilumi-nescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		53 ppb (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1-Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	—		—	0.5 ppm (1300 µg/m³)	
	24-Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30-Day Average	1.5 µg/m³	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[13]	Same as Primary Standard	
	Rolling 3-Month Average	—		—	—	
Visibility-Reducing Particles[14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Source: LSA 2020.
Notes:
°C = degrees Celsius
EPA = United States Environmental Protection Agency
ppm = parts per million
µg/m³ = micrograms per cubic meter
mg/m³ = milligrams per cubic meter
CARB = California Air Resources Board
ppb = parts per billion

1 California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once per year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent measurement method which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

Table 5.2-1 Ambient Air Quality Standards, continued

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
[7] Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
[10] To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
[11] On June 2, 2010, the new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
[12] CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
[13] The national standard for lead was revised on October 15, 2008, to a rolling three-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.
[14] In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Air Pollutants of Concern

Criteria Air Pollutants

Pursuant to the Federal Clean Air Act (CAA) of 1970, the U.S. Environmental Protection Agency (EPA) established the National AAQS (NAAQS). The NAAQS were established for six major pollutants, termed "criteria" pollutants,[1] including O_3, CO, NO_2, SO_2, lead (Pb), and particulate matter [PM_{10} and $PM_{2.5}$]. In addition, the California CAA established California AAQS (CAAQS) for three additional pollutants (sulfates, hydrogen sulfide, visibility reducing particles). Volatile organic compounds (VOCs) are not criteria air pollutants but act as criteria air pollutant precursors.

A description of each of the primary and secondary criteria air pollutants and their known health effects are presented below.

- **Ozone**: O_3 is formed by photochemical reactions between oxides of nitrogen and reactive organic gases (ROGs), rather than being directly emitted. O_3 is a pungent, colorless gas typical of southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors (e.g., the sick, elderly, and young children). O_3 levels peak during summer and early fall. The entire South Coast Air Basin (Basin) is designated as a nonattainment area for the State 1-hour and 8-hour O_3 standards. The EPA has officially designated the status for most of the Basin regarding the 8-hour O_3 standard as "Extreme Nonattainment," which means the Basin has until 2024 to attain the Federal 8-hour O_3 standard.
- **Carbon Monoxide:** CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. CO is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to the central

1 Criteria pollutants are defined as those pollutants for which the Federal and State governments have established AAQS, or criteria, for outdoor concentrations to protect public health.

nervous system functions. The entire Basin is in attainment for the State standards for CO. The Basin is designated as an "Attainment/Maintenance" area under the Federal CO standards.

- **Nitrogen Oxides**: NO_2, a reddish-brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_X. NO_X is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to infection. The entire Basin is designated as attainment for the State NO_2 standard, as an "Unclassified/Attainment" area under the Federal 1-hour NO_2 standard, and as an "Attainment/Maintenance" area under the Federal annual NO_2 standard.
- **Sulfur Dioxide**: SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment under both Federal and State SO_2 standards.
- **Lead:** Pb is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, Pb can cause damage to the brain, the nervous system, and other body systems. Children are highly susceptible to the effects of Pb. The portion of the Basin in which the project site is located is in attainment under both Federal and State standards.
- **Particulate Matter:** Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. PM_{10} derives from a variety of sources, including windblown dust and grinding operations. Fuel combustion and the resultant exhaust from power plants, diesel buses, and trucks are primarily responsible for fine particle $PM_{2.5}$ levels. Fine particles can also form in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems (e.g., asthma). The EPA's scientific review concluded that $PM_{2.5}$ particles, which penetrate deeply into the lungs, are more likely than coarse particles to contribute to adverse health effects. These health effects include premature death, increased hospital admissions and emergency room visits (primarily for the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (particularly in children and individuals with cardiopulmonary disease [e.g., asthma]); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue, structure, and in respiratory tract defense mechanisms. The Basin is designated nonattainment for the Federal and State $PM_{2.5}$ standards and State PM_{10} standard, and Attainment/Maintenance for the Federal PM_{10} standard.
- **Volatile Organic Compounds:** VOCs, also known as ROGs, form from the combustion of fuels and the evaporation of organic solvents. VOCs are not defined as criteria pollutants; however, because VOCs accumulate in the atmosphere more quickly during the winter when sunlight is limited and photochemical reactions are slower, they are a prime component of the photochemical smog reaction. There are no attainment designations for VOCs.
- **Sulfates:** Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently is converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates occurs rapidly in urban areas of the State due to regional meteorological processes. The entire Basin is in attainment for the State standard for sulfates. There are no Federal standards for sulfates.

- **Hydrogen Sulfide:** H_2S is a colorless gas with the odor of rotten eggs. H_2S forms during bacterial decomposition of sulfur-containing organic substances. In 1984, a California Air Resources Board (CARB) committee concluded the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance. The entire Basin is unclassified for the State standard for H_2S.
- **Visibility-reducing Particles:** Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry, solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition and can be made up of many different materials (e.g., metals, soot, soil, dust, and salt). The State standard is intended to limit the frequency and the severity of visibility impairment from regional haze. The entire Basin is unclassified for the State standard for visibility-reducing particles.

Table 5.2-2, *Summary of Health Effects of the Major Criteria Air Pollutants*, summarizes the primary health effects and sources of common air pollutants. Because concentration standards are set at levels that protect public health with an adequate margin of safety, these health effects would not occur unless the standards are exceeded by a large margin or for a prolonged period of time. The CAAQS are equal to or more stringent than the NAAQS. Among the criteria pollutants, O_3 and particulate matter ($PM_{2.5}$ and PM_{10}) are considered pollutants with regional effects, whereas the other criteria pollutants have a more localized effect.

Table 5.2-2 Summary of Health Effects of the Major Criteria Air Pollutants

Pollutant	Health Effects	Examples of Sources
Particulate matter ($PM_{2.5}$ and PM_{10}: less than or equal to 2.5 or 10 microns, respectively)	Hospitalizations for worsened heart diseases; emergency room visits for asthma; and premature death	Cars and trucks (especially diesel); fireplaces and woodstoves; and windblown dust from roadways, agriculture, and construction
Ozone (O_3)	Cough, chest tightness; difficulty taking a deep breath; worsened asthma symptoms; and lung inflammation	Precursor sources;[1] motor vehicles; industrial emissions; and consumer products
Carbon monoxide (CO)	Chest pain in heart patients;[2] headaches; nausea;[2] reduced mental alertness;[2] and death at very high levels[2]	Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Nitrogen dioxide (NO_2)	Increased response to allergens	See CO sources
Toxic Air Contaminants	Cancer; chronic eye, lung, or skin irritation; and neurological and reproductive disorders	Cars and trucks (especially diesels); industrial sources, such as chrome platers; neighborhood businesses, such as dry cleaners and service stations; and building materials and products

Source: LSA 2020
Notes: CARB = California Air Resources Board
1 Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.
2 Health effects from CO exposures occur at levels considerably higher than ambient.

Toxic Air Contaminants

The California Health and Safety Code defines a toxic air contaminant (TAC) as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance listed as a hazardous air pollutant pursuant to Section 112(b) of the Federal Act (42 United States Code Section 7412) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it

determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act), AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987), and Senate Bill (SB) 25 (Children's Environmental Health Protection Act). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology (T-BACT) to minimize emissions.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the designated air quality management district or air pollution control district. High priority facilities are required to perform a Health Risk Assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

To date, CARB has designated nearly 200 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel particulate matter [DPM]).

Regional

SCAQMD Air Quality Management Plan

CARB is responsible for incorporating Air Quality Management Plans (AQMPs) for local air basins into a State Implementation Plan (SIP) for EPA approval. Significant authority for air quality control within them has been given to local air districts that regulate stationary-source emissions and develop local nonattainment plans.

The South Coast Air Quality Management District (SCAQMD) and Southern California Association of Governments (SCAG) are responsible for formulating and implementing the AQMP for the Basin. The main purpose of an AQMP is to bring the area into compliance with Federal and State air quality standards. SCAQMD prepares a new AQMP every three years, updating the previous plan and 20-year horizon.

The most recent plan is the *2016 Air Quality Management Plan* (2016 AQMP), which incorporates the latest scientific and technological information and planning assumptions, including the SCAG *2016-2040 Regional Transportation Plan/Sustainable Communities Strategies* (2016 RTP/SCS) and updated emission inventory methodologies for various source categories. The 2016 AQMP includes the integrated strategies and measures needed to meet the NAAQS, implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour O_3 NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards.

SCAQMD Rules and Regulations

SCAQMD adopts rules and regulations to implement various portions of the AQMP. Several of these rules may apply to the project construction and/or operation. SCAQMD Rule 403 requires the implementation of

the best available fugitive dust control measure during active construction periods that can generate fugitive dust emissions. These construction periods typically include on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads.

The following SCAQMD rules and regulations would be applicable to the proposed project:

- SCAQMD Rule 403: Requires projects to incorporate fugitive dust control measures;
- SCAQMD Rule 1108: Limits the VOC content of asphalt;
- SCAQMD Rule 1113: Limits the VOC content of architectural coatings; and
- SCAQMD Rule 1143: Limits the VOC content of solvents used during construction.

Local

General Plan

The Land Use and Conservation Elements of the General Plan include the following goals, objectives, and policies related to air quality:

- **Objective LU-4A:** Encourage new development and redevelopment that protects and improves the quality of Costa Mesa's natural environment and resources.
    - **Policy CON-4.A.1:** Support regional policies and efforts that improve air quality to protect human and environmental health and minimize disproportionate impacts on sensitive population groups.
    - **Policy CON-4.A.2:** Encourage businesses, industries, and residents to reduce the impact of direct, indirect, and cumulative impacts of stationary and non-stationary pollution sources.
    - **Policy CON-4.A.3:** Require that sensitive uses such as schools, childcare centers, parks and playgrounds, housing, and community gathering places are protected from adverse impacts of emissions.

5.2.1.2 EXISTING CONDITIONS

Climate/Meteorology

Air quality in the planning area is not only affected by various emission sources (e.g., mobile and industry), but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the Basin some of the worst air pollution in the nation.

Temperature and Precipitation

The annual average temperature varies little throughout the Basin, ranging from the low to mid 60 degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the Santa Ana Fire Station. The monthly average maximum temperature recorded at this station ranges from 66.1°F

in January to 84.7°F in August, with an annual average maximum of 75.8°F. The monthly average minimum temperature recorded at this station ranges from 43.1°F in January to 61.6°F in August, with an annual average minimum of 52.0°F. January is typically the coldest month, and July and August are typically the warmest months in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. Santa Ana Fire Station's monitored precipitation shows that average monthly rainfall varies from 3.05 inches in February to 0.49 inch or less from May to October, with an annual total rainfall of 13.69 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

Wind and Inversions

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific High. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid- to late afternoon on hot summer days when the smog appears to clear up suddenly. Winter inversions frequently break by mid-morning. Winds in the project area blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in the project area average about five miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino counties. In the winter, the greatest pollution problems are CO and NO_X because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

Air Pollution Constituents and Attainment Status

CARB coordinates and oversees both State and Federal air pollution control programs in the State, oversees activities of local air quality management agencies, and maintains air quality monitoring stations throughout the State in conjunction with EPA and local air districts. CARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by CARB and EPA to classify air basins as attainment, nonattainment, nonattainment-transitional, or unclassified, based on air quality data for the most recent three calendar years compared with the CAAQS.

Attainment areas may be:

- ***Attainment/Unclassified.*** Areas designated under this category have never violated the air quality standard of interest or do not have enough monitoring data to establish attainment or nonattainment status;
- ***Attainment-Maintenance.*** This category applies only to NAAQS and is defined as areas that once violated a NAAQS that is currently in use (was nonattainment) in or after 1990, but now attains the standard and is officially redesignated as attainment by the EPA with a Maintenance SIP;
- ***Attainment.*** This category is usually only used for California AAQS, and is defined as areas which have adequate monitoring data to show attainment, have never been nonattainment, or, for NAAQS, have completed the official Maintenance period; or
- ***Nonattainment/Transitional.*** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify the area is close to attaining the AAQS for that pollutant.

Nonattainment areas are imposed with additional restrictions as required by EPA. The air quality data are also used to monitor progress in attaining air quality standards. Table 5.2-3, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*, lists the attainment status for each criteria pollutant in the Basin.

Table 5.2-3 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone (O_3)	Nonattainment (1-hour) Nonattainment (8-hour)	Extreme Nonattainment (1-hour) Extreme Nonattainment (8-hour)
Particulate Matter 10 microns or greater (PM_{10})	Nonattainment (24-hour) Nonattainment (Annual)	Attainment/Maintenance (24-hour)
Particulate Matter less than or equal to 2.5 microns ($PM_{2.5}$)	Nonattainment (Annual)	Serious Nonattainment (24-hour) Moderate Nonattainment (Annual)
Carbon Monoxide (CO)	Attainment (1-hour) Attainment (8-hour)	Attainment/Maintenance (1-hour) Attainment/Maintenance (8-hour)
Nitrogen Dioxide (NO_2)	Attainment (1-hour) Attainment (Annual)	Unclassified/Attainment (1-hour) Attainment/Maintenance (Annual)
Sulfur Dioxide (SO_2)	Attainment (1-hour) Attainment (24-hour)	Unclassified/Attainment (1-hour) Unclassified/Attainment (Annual)
Lead (Pb)	Attainment[1] (30-day average)	Attainment[1] (3-month rolling)
All Others	Attainment/Unclassified	N/A

Source: LSA 2020.
Notes:
1 Only the Los Angeles County portion of the Basin is in nonattainment for lead.

Existing Local Ambient Air Quality

SCAQMD, together with CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Costa Mesa Station at 2850 Mesa Verde Drive East, approximately 1.25 miles south of the project site. CO, NO_2, O_3, and SO_2 were monitored at this station through 2017. The closest station that monitors the remaining pollutants (PM_{10} and $PM_{2.5}$) is the Anaheim-Pampas Lane Station at 1630 West Pampas Lane, approximately 9.5 miles north of the project site. The air quality trends from these stations are used to represent the ambient air quality in the project area. The ambient air quality data in Table 5.2-4, *Ambient Air Quality Monitored in the Project Vicinity*, show pollutant levels are below the applicable

State and Federal standards most of the time. Ozone exceeds standards one to four days a year, PM_{10} exceeds standards two to four days a year, and $PM_{2.5}$ exceeds standards one to four days a year.

Table 5.2-4 Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	Year		
		2016	2017	2018
Carbon Monoxide (CO) – Costa Mesa Monitoring Station for 2016 and 2017, Anaheim Station for 2018				
Maximum 1-hour concentration (ppm)		2.1	1.7	2.1
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.7	1.4	1.7
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9 ppm	0	0	0
Ozone (O_3) – Costa Mesa Monitoring Station for 2016 and 2017, Anaheim Station for 2018				
Maximum 1-hour concentration (ppm)		0.090	0.088	0.112
Number of days exceeded:	State: > 0.09 ppm	0	0	1
Maximum 8-hour concentration (ppm)		0.069	0.080	0.071
Number of days exceeded:	State: > 0.07 ppm	0	4	1
	Federal: > 0.07 ppm	0	4	1
Coarse Particulates (PM_{10}) – Anaheim Monitoring Station				
Maximum 24-hour concentration (µg/m^3)		74	95	94
Number of days exceeded:	State: > 50 µg/m^3	4	4	2
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		27.4	26.1	26.5
Exceeded for the year:	State: > 20 µg/m^3	Yes	Yes	Yes
Fine Particulates ($PM_{2.5}$) – Anaheim Monitoring Station				
Maximum 24-hour concentration (µg/m^3)		44.4	54.7	63.1
Number of days exceeded:	Federal: > 35 µg/m^3	1	1	4
Annual arithmetic average concentration (µg/m^3)		9.4	11.2	10.9
Exceeded for the year:	State: > 12 µg/m^3	No	No	No
	Federal: > 15 µg/m^3	No	No	No
Nitrogen Dioxide (NO_2) – Costa Mesa Monitoring Station for 2016 and 2017, Anaheim Station for 2018				
Maximum 1-hour concentration (ppb)		60	45	66
Number of days exceeded:	State: > 180 ppb	0	0	0
	Federal: > 100 ppb	0	0	0
Annual arithmetic average concentration (ppb)		10	7.8	11.5
Exceeded for the year:	State: > 30 ppb	No	No	No
	Federal: > 53 ppb	No	No	No
Sulfur Dioxide (SO_2) – Costa Mesa Monitoring Station				
Maximum 1-hour concentration (ppb)		3.3	1.7	NA
Number of days exceeded:	State: > 250 ppb	0	0	0
	Federal: > 75 ppb	0	0	0

Sources: LSA 2020
Notes: µg/m^3 = micrograms per cubic meter; NA = Not Available; ppm = parts per million

Air Quality Improvement Trends in the Air Basin

SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in the Basin's air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the State level by CARB.

As discussed above, SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire Basin. SCAQMD created AQMPs which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the Basin. The 2012 AQMP states, "the remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multi-year strategy of reducing air pollution from all sources as outlined in its AQMPs," (LSA 2020). Ozone, NO_X, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020 (LSA 2020). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NO_X and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. Ozone contour maps show the number of days exceeding the national 8-hour standard has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period.

The overall trends of PM_{10} and $PM_{2.5}$ in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM_{10} have remained somewhat constant in the Basin, and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area-wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions.

Ozone levels in the Basin have decreased substantially over the last 30 years (LSA 2020). Today, the maximum measured concentrations are approximately one-third of concentrations within the late 70's.

As with other pollutants, the most recent PM_{10} statistics also show overall improvement. During the period for which data are available, the 24-hour national annual average decreased by almost 45 percent, from 103.7 $\mu g/m^3$ in 1989 to 57.6 $\mu g/m^3$ in 2014. Although the values in the late 1990's show some variability, this is probably due to meteorology rather than a change in emissions. Despite the overall decrease, ambient concentrations still exceed the State annual and 24-hour PM_{10} standards. Similar to the ambient concentrations, the calculated number of days above the 24-hour PM_{10} standards has also shown an overall drop. During 1995, there were 25 calculated days above the national standard. By 2014, there was one calculated national standard exceedance day (LSA 2020).

The most recent 24-hour average $PM_{2.5}$ concentrations (Federal) in the Basin from 1999 through 2014. Overall, the annual average concentrations have decreased by almost 52 percent. The calculated number of days above the national standard also decreased, from about 88 days in 1999 to about 9 days in 2014. The Basin is currently designated as nonattainment for the State and Federal $PM_{2.5}$ standards. Measures adopted as part of the

upcoming $PM_{2.5}$ SIP, as well as programs to reduce ozone and diesel PM, help in reducing public exposure to $PM_{2.5}$ in this region.

CO concentrations in the Basin have substantially decreased, with a total decrease of about 80 percent in the peak 8-hour concentration since 1986 (LSA 2020). The number of exceedance days has also declined. The entire Basin is now designated as attainment for both the State and National CO standards. Ongoing reductions from motor vehicle control programs should continue the downward trend in ambient CO concentrations.

Over the last 50 years, NO_2 values have decreased significantly; the peak 1-hour average for 2013 was almost 74 percent lower than what it was during 1963 (LSA 2020). The Basin attained the State 1-hour NO_2 standard in 1994, bringing the entire State into attainment. A new State annual average standard of 0.030 ppm was adopted by CARB in February 2007 (LSA 2020). The new standard is just barely exceeded in the Basin. NO_2 is formed from NO_X emissions, which also contribute to O_3. As a result, the majority of the future emission control measures will be implemented as part of the overall O_3 control strategy. Many of these control measures will target mobile sources, which account for more than three-quarters of California's NO_X emissions. These measures are expected to bring the Basin into attainment of the State annual average standard.

Toxic Air Contaminants Trends

In 1984, as a result of public concern for exposure to airborne carcinogens, CARB adopted regulations to reduce the amount of air toxic contaminant emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the *Ambient and Emission Trends of Toxic Air Contaminants in California* journal article, prepared for CARB, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly between 1990 and 2012 (LSA 2020). The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

CARB introduced two programs that aim at reducing mobile emissions for light- and medium-duty vehicles through vehicle emissions controls and cleaner fuel. Since 1996, light-duty vehicles sold in California are equipped with California's second-generation On-Board Diagnostic (OBD-II) system as a result of about half of total car emissions stemming from emissions control device malfunctions. CARB's phase II Reformulated Gasoline (RFG-2) regulation, adopted in 1996, also led to a reduction of mobile source emissions. Through such regulations, benzene levels declined 88 percent from 1990 to 2012. 1,3-Butadiene concentrations also declined 85 percent from 1990 to 2012 as a result of the motor vehicle regulations (LSA 2020).

In 2000, CARB's Diesel Risk Reduction Plan (DRRP) recommended the replacement and retrofit of diesel-fueled engines and the use of ultra-low-sulfur (less than 15 ppm) diesel fuel. As a result of these measures, DPM concentrations have declined 68 percent, even though the State's population increased 31 percent and the amount of diesel vehicles miles traveled increased 81 percent (LSA 2020). With the implementation of these diesel-related control regulations, CARB expects a DPM decline of 71 percent for 2000 to 2020.

Stationary Source Toxic Air Contaminants

Various regulations led to a decrease in perchloroethylene and hexavalent chromium, with a 92 percent and 86 percent decline, respectively. By 1993, several local air districts required dry cleaning businesses to use a carbon absorber and refrigerated condenser, as well as dry-to-dry machines and closed-looped machines instead of vented transfer machines. Starting in 2003, California provided financial incentives for dry cleaners to use other solvents, and soon after, CARB banned the use of perchloroethylene in automotive products, aerosol coatings, and most consumer products. In 2007, CARB's dry-cleaning regulation was amended to require phase-out of perchloroethylene machines by 2023, which would further reduce emissions to minimal levels (LSA 2020).

Hexavalent chromium emissions began to decline in 1988 with the CARB regulations contributing to more than 97 percent emission reduction within four years. The various regulations include prohibiting the use of hexavalent chromium in cooling towers (1989), in motor vehicle and mobile equipment coatings (2001), and in thermal spraying operations (2005). By 2005, hexavalent chromium emissions were 99.97 percent less than in 1987, far exceeding expectations. In 2006, hexavalent chromium emissions were further reduced with the 2006 CARB regulation requiring add-on air pollution control devices and chemical fume suppressants.

Secondary Toxic Air Contaminants

Between 1996 and 2012, ambient concentrations of formaldehyde and acetaldehyde declined 22 percent and 21 percent, respectively. The decline in these TACs is attributed from increasingly stringent motor vehicle exhaust emission standards, vehicle fleet turnover, fuel reformulation, and the switch from MTBE (formaldehyde precursor) to ethanol in gasoline (LSA 2020).

As previously discussed, ambient and emissions levels of TACs have reduced significantly from 1990 to 2012. The overall declining trend in TACs is expected to continue in California from implementation of toxic air controls.

Diesel Regulations

CARB and the Ports of Los Angeles and Long Beach have adopted several iterations of regulations for diesel trucks aimed at reducing DPM. More specifically, the CARB Drayage Truck Regulation, the CARB Statewide On-road Truck and Bus Regulation, and the Ports of Los Angeles and Long Beach "Clean Truck Program" (CTP) require accelerated implementation of "clean trucks" into the statewide truck fleet (LSA 2020). Older, more polluting trucks will be replaced with newer, cleaner trucks as a function of these regulatory requirements. Moreover, the average statewide DPM emissions for Heavy Duty Trucks (HHDT), in terms of grams of DPM generated per mile traveled, will dramatically be reduced due to the aforementioned regulatory requirements.

Cancer Risk Trends

Based on information available from CARB, overall cancer risk throughout the Basin has had a declining trend since 1990. Based on the SCAQMD *MATES IV* (MATES IV) study, the estimated basin-wide population-weighted risk decreased by approximately 57 percent since *MATES III* (MATES III). MATES IV modeling predicted an excess cancer risk of 482.86 in one million for the project area (LSA 2020).

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, elderly, acutely ill, and chronically ill, especially those with cardiorespiratory diseases.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to potential pollutants. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. In these areas, exposure periods are relatively short and intermittent because the majority of the workers tend to stay indoors most of the time and are typically the healthiest of the general population.

The closest sensitive receptors to the project site are residences to the south across I-405 Freeway, approximately 300 feet from the project boundary. Additionally, California Elementary School (3232 California Street, Costa Mesa) and Charles Tewinkle Middle School (3224 California Street, Costa Mesa) are located south of I-405 Freeway, approximately 1,500 feet from the project site.

Existing Emissions

The project site is developed with an approximate 345,000-square foot industrial building. The industrial building is currently occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dekra-Lite Industries, Inc. The existing land uses currently generate criteria air pollutant emissions from transportation (i.e., vehicle trips associated with the existing uses), area sources (e.g., landscaping equipment and consumer products), and energy sources (i.e., natural gas used for heating and cooking). Table 5.2-5, *Existing Criteria Air Pollutant Emissions*, shows existing operational emissions associated with the existing uses.

Table 5.2-5 Existing Criteria Air Pollutant Emissions

Source	Pollutant Emissions (lbs/Day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	8	<1	<1	0	<1	<1
Energy	<1	2	2	<1	<1	<1
Mobile	<1	2	8	<1	4	1
Warehouse Equipment	<1	3	5	<1	<1	<1
Total Existing Emissions	**9**	**7**	**15**	**<1**	**4**	**1**

Source: LSA 2020.
Notes: lbs/day= pounds per day; VOC = volatile organic compounds; NO_X = nitrous oxides; CO = carbon monoxide; SO_2 = sulfur dioxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

5.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.

AQ-2 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard.

AQ-3 Expose sensitive receptors to substantial pollutant concentrations.

AQ-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

5.2.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Regional Emissions Thresholds

The City uses the SCAQMD *1993 CEQA Air Quality Handbook* to identify potentially significant impacts on air quality. For the purposes of this analysis, an impact is considered significant if a project:

- Generates total emissions (direct and indirect) in excess of the thresholds identified in Table 5.2-6, *SCAQMD Significance Thresholds*.
- Generates a violation of any ambient air quality standard when added to the local background; or
- Does not conform with the applicable attainment or maintenance plan(s).

Table 5.2-6 lists the CEQA significance thresholds for construction and operational emissions established for the Basin. Projects in the Basin with construction- or operation-related emissions that exceed any of these emission thresholds would be considered significant under SCAQMD guidelines. These thresholds apply as both project-specific and cumulative thresholds. If a project exceeds these standards, it is considered to have a project-specific and cumulative impact.

Table 5.2-6 SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROG)	75 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Nitrogen Oxides (NO_X)	100 lbs/day	55 lbs/day
Sulfur Oxides (SO_X)	150 lbs/day	150 lbs/day
Particulates (PM_{10})	150 lbs/day	150 lbs/day

Source: LSA 2020.
Notes: lbs/day = pounds per day

CO Hot Spot Threshold

The significance of localized project impacts depends on whether ambient CO levels in the vicinity of the project are above or below State and Federal CO standards. Ambient CO levels throughout the Basin are below the standards, therefore, a project would have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm; and
- California State 8-hour CO standard of 9 ppm.

If ambient levels already exceed a State or Federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. SCAQMD defines a measurable amount as 1.0 ppm or more for the 1-hour CO concentration or 0.45 ppm or more for the 8-hour CO concentration.

Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, CO disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors. Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

At the time of the publishing of the *1993 CEQA Air Quality Handbook*, the Basin was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Basin and in California have steadily declined. In 2007, SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS. As identified within SCAQMD's *2003 Air Quality Management Plan* and the *1992 Federal Attainment Plan for Carbon Monoxide*, peak CO concentrations in the Basin were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than

44,000 vehicles per hour (or 24,000 vehicles per hour where vertical and/or horizontal air does not mix) in order to generate a significant CO impact.

Localized Significance Threshold

SCAQMD published the *Final Localized Significance Threshold Methodology* in June 2003 and updated it in July 2008, which recommends air quality analyses to include assessments of both construction and operational impacts on nearby sensitive receptors. Localized Significance Thresholds (LSTs) represent the maximum emissions from a project site that are not expected to result in an exceedance of the most stringent applicable NAAQS or CAAQS for CO, NO_2, PM_{10} and $PM_{2.5}$, as shown in Table 5.2-1.

LST analyses only apply to CO, NO_2, PM_{10}, and $PM_{2.5}$ emissions during construction and operation and are at the discretion of the lead agency. Screening-level analysis of LSTs is only recommended for construction activities at project sites that are five acres or less. SCAQMD recommends that any project greater than five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors. Thus, dispersion modeling has been prepared for CO, NO_2, PM_{10}, and $PM_{2.5}$ emissions for the proposed project. NO_X to NO_2 conversion is accounted for in the modeling to determine the maximum NO_2 concentrations at the nearest sensitive receptors.

SCAQMD has developed a methodology to assess the potential for localized emissions to cause an exceedance of applicable AAQS. In the case of CO and NO_2, which are in attainment for the Basin, if ambient levels are below the standards, a project would have a significant impact if project emissions would result in an exceedance of one or more of these standards. If ambient levels already exceed a State or Federal standard, then project emissions would be considered significant if they increase ambient concentrations by a measurable amount. PM_{10} and $PM_{2.5}$ are both nonattainment pollutants. Under SCAQMD Rules 403 and 1301, significance criteria for PM_{10} and $PM_{2.5}$ are 10.4 $\mu g/m^3$ for construction emissions and 2.5 $\mu g/m^3$ for operational emissions, respectively.

To avoid the need for every air quality analysis to perform air dispersion modeling, SCAQMD created look-up tables that correlate pollutant emissions rates with project size to screen out projects that are unlikely to generate enough emissions to result in a locally significant concentration of any criteria pollutant. These look-up tables can also be used as screening criteria for larger projects to determine whether dispersion modeling may be required. LSTs are based on the ambient concentrations of that pollutant within a project's Source Receptor Area (SRA) and the distance to the nearest sensitive receptor.

Table 5.2-7, *Operational Localized Significance Thresholds*, and Table 5.2-8, *Construction Localized Significance Thresholds*, list the applicable LST emission rates for project operations and construction, respectively.

Table 5.2.7 Operational Localized Significance Thresholds

On-site Emissions Sources	Pollutants(lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Operational Emissions[1]	200	2,349	13	5

Source: LSA 2020.
Notes: lbs/day = pounds per day; NO_X = Nitrogen Dioxide, CO = Carbon Monoxide, PM_{10} = Particulate Matter less than 10 microns in size, $PM_{2.5}$ = Particulate Matter less than 2.5 microns in size
1. The project is located in Source Receptor Area (SRA) 18, North Orange County Coastal. The project would disturb five acres per day and the closest sensitive receptors are 300 feet away. Thus, the LST threshold for SRA 18 at a distance of 100 meters (328 feet) with a disturbance five acres per day was utilized.

Table 5.2-8 Construction Localized Significance Thresholds

Pollutant	Ambient Air Quality Standard	Ambient Concentration	Threshold
CO (1-Hour)	20 ppm	2.1 ppm	17.9 ppm
CO (8-Hour)	9.0 ppm	1.7 ppm	7.3 ppm
NO_2 (1-hour)	0.18 ppm	<0.1 ppm	0.1 ppm
NO_2 (Annual)	0.03 ppm	<0.1 ppm	<0.1 ppm
PM_{10} (24-hour)[1]	—	—	10.4 µg/m^3
PM_{10} (Annual)[1]	—	—	1.0 µg/m^3
$PM_{2.5}$ (24-hour)[1]	—	—	10.4 µg/m^3
$PM_{2.5}$ (Annual)[1]	—	—	1.0 µg/m^3

Source: LSA 2020.
Notes: µg/m^3 = microgram of pollutant per cubic meter of air; ppm = parts per million, NO_X = Nitrogen Dioxide, CO = Carbon Monoxide, PM_{10} = Particulate Matter less than 10 microns in size, $PM_{2.5}$ = Particulate Matter less than 2.5 microns in size
[1] Because both PM_{10} and $PM_{2.5}$ are in non-attainment, their thresholds are not based on AAQS exceedance, but rather a violation of SCAQMD Rule 403.

Health Risk Thresholds

Both the State and Federal governments have established health-based AAQS for seven air pollutants. For other air pollutants without defined significance standards, the definition of substantial pollutant concentrations varies. For TACs, "substantial" is taken to mean the individual health risk exceeds a threshold considered to be a prudent risk management level.

The following limits for maximum individual cancer risk (MICR) and non-cancer acute and chronic Hazard Index (HI) from project emissions of TACs are considered appropriate for use in determining the health risk for projects in the Basin:

- **MICR**: MICR is the estimated probability of a maximum exposed individual (MEI) contracting cancer as a result of exposure to TACs over a period of 30 years for adults and children 9 years or older in residential locations. As a conservative measure, SCAQMD does not recognize indoor adjustments for residents. However, the typical person spends the majority of their time indoors.[2] The MICR calculations include multi-pathway consideration, when applicable. The cumulative increase in MICR, the sum of the calculated

2 In May 1991, the California Air Resources Board Research Division, in association with the University of California, Berkeley, published research findings entitled: *Activity Patterns of California Residents*. The findings of that study indicate on average, adults and adolescents in California spent almost 15 hours per day inside their homes and six hours in other indoor locations, for a total of 21 hours (87 percent of the day). About two hours per day were spent in transit, and just over one hour per day was spent in outdoor locations.

MICR values for all TACs, is considered significant if it results in an increased MICR greater than 10 in 1 million for any resident.

- **Chronic HI:** Chronic HI is the ratio of the estimated long-term level of exposure to a TAC for a potential MEI to its chronic reference exposure level. The chronic HI calculations include multi-pathway consideration, when applicable. Impacts are considered significant if the cumulative increase in total chronic HI for any target organ system exceeds 1.0 for any resident.
- **Acute HI:** Acute HI is the ratio of the estimated maximum 1-hour concentration of a TAC for a potential MEI to its acute reference exposure level. The project is considered significant if the cumulative increase in total acute HI for any target organ system exceeds 1.0 for any resident.

Table 5.2-9, *SCAQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for project operations.

Table 5.2-9 SCAQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Hazard Index (project increment)	≥ 1.0
Cancer Burden in areas ≥ 1 in 1 million	> 0.5 excess cancer cases

Source: LSA 2020.

5.2.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to air quality.

PPP AIR-1 New buildings are required to achieve the current California Building Energy and Efficiency (BEE) Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11).

PPP AIR-2 Construction activities are required to be conducted in compliance with 13 California Code of Regulations (CCR) Section 2499, which requires nonessential idling of construction equipment is restricted to five minutes or less.

PPP AIR-3 Construction activities are required to comply with applicable South Coast Air Quality Management District (SCAQMD) rules and regulations, including, but not limited, to the following:

- Rule 402, *Nuisance*, which states a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property;" and

- Rule 1113, *Architectural Coatings*, which limits the volatile organic compound content of architectural coatings.

PPP AIR-4 Construction activities are required to recycle/reuse at least 50 percent of the construction material including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard, and to use green building materials such as those materials that are rapidly renewable or resource efficient, and recycled and manufactured in an environmentally friendly way, for at least ten percent of the project, as specified in the California Department of Resources Recycling and Recovery Sustainable Green Building Program.

SCA PLNG-14 Demolition permits for existing structure(s) shall be obtained and all work and inspections completed prior to final building inspections. Applicant is notified that written notice to the South Coast Air Quality Management District (SCAQMD) may be required ten (10) days prior to demolition.

SCA AQMD-3 Applicant shall contact the South Coast Air Quality Management District (SCAQMD) at (800) 288-7664 for potential additional conditions of development or for additional permits required by the district.

SCA HYD-1 South Coast Air Quality Management District (SCAQMD) Rule 403 would be adhered to, ensuring the cleanup of construction-related dirt on approach routes to the project site. Rule 403 prohibits the release of fugitive dust emissions from any active operation, open storage pile, or disturbed surface area beyond the property line of the emission sources. Particulate matter deposits on public roadways are also prohibited.

SCA HYD-2 Adequate watering techniques would be employed to partially mitigate the impact of construction-generated dust particulates. Portions of the project site that are undergoing earth moving operations would be watered such that a crust is formed on the ground surface and then watered again at the end of the day.

SCA HYD-3 Grading operations would be suspended during first and second stage ozone episodes or when winds exceed 25 miles per hour.

5.2.4 Environmental Impacts

Air pollutant emissions associated with the project would occur over the short-term from construction activities and over the long-term from operational activities including project-related vehicular trips and energy consumption (e.g., electricity and natural gas usage).

5.2.4.1 METHODOLOGY

The California Emissions Estimator Model Version 2016.3. (CalEEMod) was used to model the project's construction and operational emissions. The American Meteorological Society/Environmental Protection Agency Regulatory Model Version 18081 (AERMOD) is an EPA-approved air dispersion model that was used

to calculate localized pollutant concentrations for construction activities as part of the Health Risk Assessment. Appendix C provides detailed methodology and modeling assumptions for the project.

5.2.4.2 IMPACT ANALYSIS

The following impact analysis addresses the thresholds of significance that may be potentially significant. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.2-1: Construction activities associated with the proposed project could generate short-term emissions in exceedance of SCAQMD's threshold criteria that would cumulatively contribute to the nonattainment designations in the Basin. [Threshold AQ-2]

Impact Analysis:

Regional Construction Emissions

Construction activities associated with the proposed project would produce exhaust air emissions from various sources, including on-site heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting construction crew. Demolition and grading activities would produce fugitive dust emissions (PM_{10} and $PM_{2.5}$). Air pollutant emissions from construction activities on-site would vary daily as construction activity levels change.

The proposed project is anticipated to start construction in January 2022 and conclude in January 2027 (approximately five years). The existing on-site industrial building and associated parking lot would be demolished. Construction of the project would require approximately 91,000 cubic yards of fill and 194,000 cubic yards of soil removal. Table 5.2-10, *Short-term Regional Peak Day Construction Emissions*, identifies the worst-case construction emissions associated with the project.

Table 5.2-10 Short-term Regional Peak Day Construction Emissions

Construction Phase	Maximum Daily Emissions (lbs/Day)[1,2]							
	VOC	NO_x	CO	SO_x	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	3	31	23	<1	3	1	<1	1
Site Preparation	3	33	20	<1	7	2	4	1
Grading	4	79	35	<1	7	1	3	1
Building Construction	5	24	39	<1	9	<1	3	<1
Paving	<1	9	15	<1	<1	<1	<1	<1
Architectural Coating	105	1	7	<1	3	<1	<1	<1
Maximum Daily Emissions[1]	**110**	**112**	**74**	**<1**	**17**		**8**	
SCAQMD Regional Threshold	**75**	**100**	**550**	**150**	**150**		**55**	
Exceeds Threshold?	**Yes**	**Yes**	No	No	No		No	

Source: LSA 2020.

Note: lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District; µg/m^3 = microgram of pollutant per cubic meter of air; ppm = parts per million; VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur oxides; PM_{10} = particulate matter less than 10 microns in size; $PM_{2.5}$ = particulate matter less than 2.5 microns in size

1. Assumes the Building Construction, Paving, and Architectural Coating phases overlap. PM10 and PM2.5 fugitive emissions are from the Mitigated results - the only "mitigation" applied in this modeling are required dust control measures per SCAQMD Rule 403.
2. Assumes worst-case emissions based on overlap of the grading, building construction, paving, and architectural coating phases.

The project would be required to comply 13 CCR Section 2499 (limiting idling to five minutes or less), limit fugitive dust and VOC emissions, and required recycling/reuse of at least 50 percent of the construction material (see PPP AIR-2, PPP AIR-3, and PPP AIR-4). The project would also be required to comply with SCA PLNG-14, SCA AQMD-3, and SCA HYD-1 through SCA HYD-3 pertaining to SCAQMD permits, compliance with Rule 403, and other dust control measures during construction. As shown in Table 5.2-10, project construction would result in VOC and NO_X emissions in exceedance of applicable SCAQMD thresholds. Project-generated CO, SO_X, and particulate matter would not exceed their respective thresholds. As such, short-term construction impacts would be potentially significant for VOC and NO_X emissions.

Health Effects of Criteria Air Pollutants

The accumulation and dispersion of air pollutant emissions within an air basin is dependent upon the size and distribution of emission sources in the region and meteorological factors such as wind, sunlight, temperature, humidity, rainfall, atmospheric pressure, and topography. As expressed in the *amicus curiae* brief submitted for the *Sierra Club v. County of Fresno* case (*Friant Ranch Case*),[3] the air districts established and recommend CEQA air quality analyses of criteria air pollutants use significance thresholds that were set at emission levels tied to the region's attainment status, based on emission levels at which stationary pollution sources permitted by the air district must offset their emissions. Such offset levels allow for growth while keeping the cumulative effects of new sources at a level that will not impede attainment of the NAAQS. The health risks associated with exposure to criteria pollutants are evaluated on a regional level, based on the region's attainment of the NAAQS. The mass emissions significance thresholds used in CEQA air quality analysis are not intended to be indicative of human health impacts that a project may have.[4] Therefore, the project's exceedance of the mass regional emissions threshold (i.e., project construction VOC and NOx exceedances) from project-related activities does not necessarily indicate that the project would cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

As discussed earlier and shown in Table 5.2-3, the Basin is currently in State nonattainment status for O_3, $PM_{2.5}$, and PM_{10}, as well as Federal nonattainment status for O_3 and $PM_{2.5}$. Although O_3 would not be directly emitted by construction equipment for the proposed project, the O_3 precursors VOC and NO_X would be emitted, as well as, the other criteria pollutants of CO, SO_X, PM_{10} and $PM_{2.5}$. Given that O_3 formation occurs through a complex photo-chemical reaction between NO_X and VOC in the atmosphere with the presence of sunlight, the impacts of O_3 are typically considered on a basin-wide or regional basis and not on a localized basis.

The health-based ambient air quality standards for O_3 are established as concentrations of O_3 and not as tonnages of their precursor pollutants (i.e., NO_X and VOC). It is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting O_3 or particulate matter. Because of the complexity of O_3 formation and the non-linear relationship of O_3 concentration with its precursor

[3] SJVAPCD, 2014. Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

[4] Ibid; SCAQMD, 2014, Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

gases, and given the state of environmental science modeling in use at this time, it is not practical to determine whether, or the extent to which, a single project's precursor (i.e., NO_X and VOC) emissions would potentially result in the formation of secondary ground-level O_3 and the geographic and temporal distribution of such secondary formed emissions. Meteorology, the presence of sunlight, seasonal impacts, and other complex photochemical factors all combine to determine the ultimate concentration and location of O_3.[5] Running the regional-scale photochemical grid model used for predicting O_3 attainment with the emissions from any individual project can be done, but it would not yield reliable information regarding a measurable increase in O_3 concentrations sufficient to accurately quantify O_3-related health effects. Similarly, it would also not be feasible to identify a project's impact on the days of nonattainment per year. Furthermore, available models today are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by VOC or NO_X emissions from a local level (an individual project). Notwithstanding this scientific constraint, CEQA air quality analyses have been using project-level mass-emission thresholds for ozone precursors (NO_X and VOC), particulate matter, and other criteria pollutants, and the disconnect between project-level emissions and project-level health impact cannot be bridged at this time. Based on this information, a general description of the adverse health effects resulting from the project-level criteria pollutants, which is discussed previously, is all that can be feasibly provided at this time.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.2-2: Operational air emissions associated with the proposed project would not exceed applicable SCAQMD threshold criteria. [Threshold AQ-2]

Impact Analysis:

Project buildout would result in criteria air pollutant emissions from transportation, area, and energy sources. Table 5.2-11, *Opening Year Regional Operational Emissions*, depicts long-term operational emissions associated with the proposed project. As shown, operational emissions would not exceed applicable SCAQMD operational significance thresholds and thus, would not cumulatively contribute to the Basin's nonattainment designations.

Table 5.2-11 Opening Year Regional Operational Emissions

Source	Pollutant Emissions (lbs/Day)					
	VOC	NOx	CO	SO2	PM_{10}	$PM_{2.5}$
Existing Operational Emissions						
Area	8	<1	<1	0	<1	<1
Energy	<1	2	2	<1	<1	<1
Mobile	<1	2	8	<1	4	1
Warehouse Equipment	<1	3	5	<1	<1	<1
Total Existing Emissions	**9**	**7**	**15**	**<1**	**4**	**1**
Proposed Project Operational Emissions						
Area	26	1	87	<1	<1	<1
Energy	<1	3	1	<1	<1	<1
Mobile	9	33	112	<1	53	14
Total Project Emissions	**35**	**37**	**200**	**<1**	**53**	**15**

[5] Ibid.

Table 5.2-11 Opening Year Regional Operational Emissions, continued

Source	Pollutant Emissions (lbs/Day)					
	VOC	NOx	CO	SO2	PM_{10}	$PM_{2.5}$
Net Change						
Net Operational Emissions	**26**	**30**	**185**	**<1**	**49**	**14**
SCAQMD Operational Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Source: LSA 2020.
Notes: lbs/day = pounds per day; VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur oxides; PM_{10} = particulate matter less than 10 microns in size; $PM_{2.5}$ = particulate matter less than 2.5 microns in size; SCAQMD = South Coast Air Quality Management District.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.2-3 Project construction would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-3]

Impact Analysis:

Construction Localized Impact Analysis

A localized significant impact may occur if a project generates pollutant concentrations to a degree that would significantly affect sensitive receptors near a project site. The nearest sensitive receptors to the project site are residents to the south of the I-405 Freeway, approximately 300 feet from the project site.

Because precise construction schedule information is not available at this time, project construction activities were modeled as an area source for the entire 15.23-acre project site. Table 5.2-12, *Construction Localized Significance Modeling Results*, shows project-related pollutant concentrations from construction activities would not exceed the AAQS for all residences within the modeling range (500 meters [1,640 feet] from the project boundary). Impacts in this regard would be less than significant.

Table 5.2-12 Construction Localized Significance Modeling Results

Pollutant	Threshold	Maximum Project Concentration Increase	Difference	Exceeds Threshold?
CO (1-Hour)	17.9 ppm	0.4 ppm	-17.5 ppm	No
CO (8-Hour)	7.3 ppm	0.1 ppm	-7.2 ppm	No
NO_2 (1-hour)	0.1 ppm	<0.1 ppm	-0.1 ppm	No
NO_2 (Annual)	<0.1 ppm	<0.1 ppm	-<0.1 ppm	No
PM_{10} (24-hour) [1]	10.4 µg/m^3	3.3 µg/m3	-7.1 µg/m^3	No
PM_{10} (Annual) [1]	1.0 µg/m^3	0.1 µg/m3	-0.9 µg/m^3	No
$PM_{2.5}$ (24-hour) [1]	10.4 µg/m^3	2.9 µg/m3	-7.5 µg/m^3	No
$PM_{2.5}$ (Annual)[1]	1.0 µg/m^3	<0.1 µg/m3	-1.0 µg/m^3	No

Source: LSA 2020.
Note: µg/m^3 = microgram per cubic meter; ppm = parts per million; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = particulate matter less than 10 microns in size; $PM_{2.5}$ = particulate matter less than 2.5 microns in size
1 Because both PM_{10} and $PM_{2.5}$ are in non-attainment, their thresholds are not based on AAQS exceedance, but rather a violation of SCAQMD Rule 403.

Construction Health Risk Analysis

The greatest potential for TAC emissions during construction activities are related to DPM emissions from heavy equipment operations. Incidental amounts of substances containing TACs (such as oils, solvents, and paints) could be used. However, these products would comply with all applicable SCAQMD rules (see PPP AIR-3, SCA PLNG-14, SCA AQMD-3, and SCA HYD-1) and would not contribute substantially to overall health risks from TACs. According to SCAQMD methodology, health effects from carcinogenic TACs are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to concentrations of TACs over a 30-year residential lifetime will contract cancer, based on the use of standard risk assessment methodology. The SCAQMD *1993 CEQA Air Quality Handbook* recommends that sensitive receptors located within 0.25-mile of a facility that emits TACs be considered in an evaluation of TAC-related health impacts. Sensitive receptors located beyond the 0.25-mile distance are generally not required to be evaluated due to atmospheric mixing and dispersion of pollutants.

It was conservatively assumed that construction emissions from the proposed project would occur over a year and thus, the Health Risk Assessment analyzed the cancer risk for one year of exposure. As shown in Table 5.2-13, *Construction Health Risk Levels for Residents Near the Project Site*, project construction would not result in any substantial health risk levels for nearby residents. In addition, there would be no residual emissions or corresponding individual cancer risk after construction. As a result, construction TAC emissions would have a less than significant impact.

Table 5.2-13 Construction Health Risk Levels for Residents Near the Project Site

Location	Maximum Cancer Risk (risk per million)	Maximum Noncancer Chronic Risk (Hazard Index)
Unmitigated Maximum Exposed Individual	2.8 per million	0.003
Maximum Exposed Individual	2.0 per million	0.002
SCAQMD Significance Threshold	**10**	**1.0**
Exceeds Thresholds?	No	No

Source: LSA 2020.
Notes: SCAQMD = South Coast Air Quality Management District

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.2-4: Project operations would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-3]

Operational Localized Impacts Analysis

Impact Analysis:

Table 5.2-14, *Long-term Operational Localized Impacts Analysis*, details the calculated emissions for the proposed operational activities compared with the appropriate LSTs. By design, the LST analysis only requires analysis of the on-site emissions sources. However, CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. Thus, an assumption for on-site mobile sources was incorporated into the modeling. For a worst-case scenario assessment, the emission calculation includes all on-site project-related stationary sources and five percent of the project-related new mobile sources, which is an estimate of the percentage of vehicle travel that would occur on-site. CalEEmod assumes an average round-trip length of 14.7 miles for home-to-

work, 5.9 miles for home-to-shopping, and 8.7 miles for other trip types. An average of these distances would be approximately 9.43 miles per trip. It is unlikely that the average on-site distance driven (including within the parking structure and exiting the site) would be more than 2,000 feet (0.38-mile), which is approximately four percent of total miles traveled. Therefore, considering the total trip length included in CalEEMod, the five percent assumption is conservative.

Table 5.2-14 Long-term Operational Localized Impacts Analysis

Emissions Sources	NOx	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	3	93	3	1
Localized Significance Thresholds[1]	**200**	**2,349**	**13**	**5**
Exceeds Thresholds?[2]	No	No	No	No

Source: LSA 2020.
Notes: NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = particulate matter less than 10 microns in size; $PM_{2.5}$ = particulate matter less than 2.5 microns in size
[1] The LST thresholds for SRA 18: North Orange County, for a project with five acres disturbed per day with a receptor distance of 100 meters.
[2] It is conservatively assumed that the on-site traffic is equal to 5 percent of the total project traffic.

As shown in Table 5-2.14, long-term operational emission would not exceed the LSTs for sensitive receptors in the project area. Further, daily operational emissions would not exceed the daily thresholds of any criteria pollutant established by SCAQMD. Thus, the project would not result in a locally significant operational air quality impacts. Furthermore, the project would not include the use of diesel generators or other significant sources of TAC emissions. Overall, the project would not result in significant operational health risk impacts to the nearest residents.

General Plan Air Quality Policies Pertaining to Local Emissions

As detailed in Section 5.9, *Land Use and Planning*, Table 5.9-1, *Project Consistency with General Plan*, the following General Plan policies pertain to minimize exposure of sensitive receptors to air quality emissions.

- **Policy CON-4.A.1:** Support regional policies and efforts that improve air quality to protect human and environmental health, and minimize disproportionate impacts on sensitive population groups.
- **Policy CON-4.A.2:** Encourage businesses, industries and residents to reduce the impact of direct, indirect, and cumulative impacts of stationary and non-stationary pollution sources.
- **Policy CON-4.A.3:** Require that sensitive uses such as schools, childcare centers, parks and playgrounds, housing, and community gathering places are protected from adverse impacts of emissions.

As detailed above, operational air quality impacts would be less than significant, and the project would not result in adverse impacts to nearby sensitive uses. Additionally, project operations would not result in adverse impacts from stationary and mobile pollution sources. Last, it is acknowledged that the project would place new housing near existing and proposed emissions during operations. However, all new multi-family residential buildings would install two-inch Minimum Efficiency Reporting Value (MERV) 13 filters in accordance with CALGreen standards as detailed in the Specific Plan (see PPP LU-1). Thus, the proposed project would meet the intent of these General Plan policies and impacts in this regard would be less than significant.

CO Hot Spot Analysis

At the time of the publishing of the *1993 CEQA Air Quality Handbook* , the Basin was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Basin and in California have steadily declined. In 2007, SCAQMD was designated attainment for CO under both the CAAQS and NAAQS. As identified within SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide, peak carbon monoxide concentrations in the Basin were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. A CO hot spot analysis was conducted at four busy intersections in Los Angeles County at the peak morning and afternoon periods and did not predict a violation of CO standards. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (or 24,000 vehicles per hour where vertical and/or horizontal air does not mix) in order to generate a significant CO impact. One of the top four worst intersections in the Basin (i.e., Sunset Boulevard/Highland Avenue) is in the City of Los Angeles, approximately 37 miles northwest of the proposed project. Because the SCAQMD modeled intersections do not exceed the CO standards, intersections within the proposed project study area with lesser volumes of traffic and under less extreme conditions would not exceed the CO standards. Buildout of the proposed project would not produce the volume of traffic (7,103 peak daily), required to generate a CO hot spot (LSA 2020). Therefore, implementation of the proposed project would not be expected to result in CO hot spots, and impacts would be less than significant. No mitigation is required.

Localized Air Quality Health Impacts

As evaluated above, the project's air emissions would not exceed the SCAQMD's LST thresholds, and CO hot spots would not occur as a result of the proposed project. Therefore, the project would not exceed the most stringent applicable Federal or State ambient air quality standards for emissions of CO, NO_X, PM_{10}, or $PM_{2.5}$. It should be noted that the AAQS are developed and represent levels at which the most susceptible persons (e.g., children and the elderly) are protected. In other words, the AAQS are purposefully set in a stringent manner to protect children, elderly, and those with existing respiratory problems. Thus, air quality health impact associated with the project would be less than significant in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.2-5: The proposed project is consistent with the applicable air quality management plan. [Threshold AQ-1]

Impact Analysis:

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended general plan elements, specific plans, and significantly unique projects need to undergo a consistency review because the air quality plan strategy is based on projections from local general plans. The AQMP is based on regional growth

projections developed by SCAG. The proposed project is considered a regionally significant project because it would result in development of more than 500 dwelling units.

Consistency with the 2016 AQMP would be achieved if the project is consistent with the goals, objectives, and assumptions in the 2016 AQMP to achieve the Federal and State air quality standards. Per SCAQMD, there are two main criterion of a project's consistency with the AQMP:

Criterion 1: whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the 2016 AQMP; and

Criterion 2: whether the project would exceed the 2016 AQMP's assumptions for 2040 or yearly increments based on the year of project buildout and phasing.

With respect to determining the proposed project consistency with AQMP growth assumptions, the projections in the AQMP for achieving air quality goals are based on population, housing, and growth assumptions in the 2016 RTP/SCS. As described in Section 5.11, *Population and Housing*, according to the 2016 RTP/SCS, the population and employment for the City in 2012 was 111,200 residents and 84,400 employees. In 2040, the City is forecasted to have a population and employment of 116,400 residents and 93,200 employees. Therefore, the forecasted population for the City is anticipated to increase by approximately 5,200 residents and 8,800 employees between 2012 and 2040. The U.S. Census reports approximately 2.73 residents per dwelling unit in Costa Mesa; therefore, development of the project site with 1,057 new dwelling units could house up to 2,886 residents. The proposed residential community location would encourage alternative mode use as it is in close proximity to commercial, retail, business, and nearby trails. The community would include a park, trail connections, vanpool/carpool parking, electric vehicle (EV) charging stations, rideshare amenities, and bicycle share opportunities. Further, the project would be compliant with the latest BEE Standards which require solar ready rooftops, increased insulation, low flow fixtures, and energy efficient appliances. In general, the project would promote environmentally sustainable development principles by providing a mix of land uses in close proximity to employment centers. These project attributes are consistent with the goals identified in the 2016 AQMP.

The proposed project is within an activity center with employment opportunities and a commercial center. As such, the proposed project would be a potential node of trip attractions with opportunities for short local trips or even alternative methods of commuting (i.e. cycling or walking). Thus, the proposed project has the potential to reduce automobile trips, compared to an isolated development that would not be near employment opportunities or a commercial center. As shown in Table 5.2-11, project operations would not result in an exceedance of applicable SCAQMD thresholds; therefore, the project is not expected to result in a violation of air quality standards.

In summary, while the proposed project is a regionally significant project that would result in substantial population growth, project emissions would not substantially contribute to the Basin's nonattainment designations and would not interfere with SCAQMD's implementation of the 2016 AQMP. Due to these factors the proposed project would be consistent with the 2016 AQMP.

Level of Significance Before Mitigation: Less than Significant Impact.

Impact 5.2-6 The proposed project would not result in odors that affect a substantial number of people. [Threshold AQ-4]

Impact Analysis:

Odors from Construction Activities

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with CRR Title 13 Sections 2449(d)(3) and 2485 (see PPP-AIR-2), which require the project to minimize idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. The project would also comply with SCAQMD Rule 402, *Nuisances*, and the Rule 1113, *Architectural Coating* (see PPP-AIR 3) which would minimize odor impacts from VOC emissions during architectural coating. As such, impacts to existing adjacent land uses would be less than significant.

Odors from Operational Activities

According to the SCAQMD *1993 CEQA Air Quality Handbook*, land uses associated with operational odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors. Therefore, the impacts associated with operational odors would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.2.5 Cumulative Impacts

Due to the extent of the area potentially impacted from cumulative project emissions (i.e., the Basin), SCAQMD considers a project cumulatively significant when project-related emissions exceed the SCAQMD regional emissions thresholds.

Impact 5.2-7: Cumulative construction activities associated with the proposed project could generate short-term emissions in exceedance of SCAQMD's threshold criteria that would cumulatively contribute to the Basins' nonattainment designations. [Threshold AQ-2]

Impact Analysis:

The Basin is designated nonattainment for O_3 and $PM_{2.5}$ under the CAAQS and NAAQS and nonattainment for PM_{10} and Pb (Los Angeles County only) under the NAAQS. Construction of cumulative projects would further degrade the regional and local air quality. Air quality would be temporarily impacted during construction activities. As described in Impact Statement 5.2-1, the proposed project's short-term construction emissions

would exceed the SCAQMD established thresholds for NOx and VOC. As the project would exceed these thresholds and the Basin is in nonattainment for O_3, the proposed project's contribution to cumulative air quality impacts would be cumulatively considerable and potentially significant.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.2-8: Long-term project operations would not generate cumulative air emissions in exceedance of applicable SCAQMD thresholds. [Threshold AQ-2]

Impact Analysis:

As stated in Impact 5.2-2, project operations would not result in emissions in exceedance of applicable SCAQMD thresholds. Therefore, the project would not result in cumulatively considerable impacts. A less than significant impact would occur in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.2-9 Construction of the project would not expose sensitive receptors to substantial cumulative pollutant concentrations. [Threshold AQ-3]

Impact Analysis:

Due to the extent of the area potentially impacted from cumulative project emissions (i.e., the Basin), SCAQMD considers a project cumulatively significant when project-related emissions exceed the SCAQMD LST emissions thresholds. As the project does not exceed the SCAQMD LST thresholds, less than significant cumulative impacts would occur. Further, as discussed in Impact 5.2-3 and Impact 5.2-8, the project would not have a cumulatively considerable impact with regard to CO hot spots and health risk impacts. Less than significant impacts would result in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.2-10 Project operations would not expose sensitive receptors to substantial cumulative pollutant concentrations. [Threshold AQ-3]

Impact Analysis:

Per Impact 5.2-4, operational source emissions for the project would not exceed the applicable SCAQMD LSTs thresholds. Thus, the project's operational localized emissions impacts would not be cumulatively considerable toward exposing sensitive receptors to substantial pollutant concentrations. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.2-11: The proposed project is consistent with the applicable air quality management plan and would not cause a cumulative impact. [Threshold AQ-1]

Impact Analysis:

As discussed under Impact 5.2-5, the project's anticipated population growth is within SCAG's 2040 forecast population projection for the City and region and is accounted for in the 2016 AQMP. Furthermore, the project's operational air emissions would not exceed the SCAQMD regional thresholds, and localized emissions during construction would be below SCAQMD LST thresholds. Thus, the project would be consistent with the types, intensity, and patterns of land use envisioned for the project vicinity per the 2016 RTP/SCS and would be consistent with the 2016 AQMP. As such, the project would not have a cumulatively considerable contribution to impacts in this regard, and a less than significant impact would occur.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.2-12: The proposed project would not result in cumulatively considerable odors that affect a substantial number of people. [Threshold AQ-4]

Impact Analysis:

As discussed under Impact 5.2-6, the proposed project does not include any uses identified by the SCAQMD as being associated with odors. Further, the project be required to minimize the idling time of construction equipment (see PPP AIR-2) and VOC emissions during architectural coating (see PPP-AIR 3). As such, the project's incremental contribution to impacts in this regard would be less than cumulatively considerable, and a less than significant impact would occur.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.2.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be less than significant: Impacts 5.2-2 through 5.2-6 and Impacts 5.2-8 through Impacts 5.2-12.

However, without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.2-1:** Construction activities associated with the proposed project could generate short-term emissions in exceedance of SCAQMD's threshold criteria that would cumulatively contribute to the nonattainment designations in the Basin.
- **Impact 5.2-7:** Cumulative construction activities associated with the proposed project could generate short-term emissions in exceedance of SCAQMD's threshold criteria that would cumulatively contribute to the Basins' nonattainment designations.

5.2.7 Mitigation Measures

Impact 5.2-1

AIR-1 Prior to the issuance of a grading permit, the grading plans shall stipulate that the contractor shall use construction equipment that meets the U.S. Environmental Protection Agency Tier 3 level of emission controls fitted with Level 2 Diesel Particulate Filters (DPF) for all construction equipment 50 horsepower or more during construction activities.

AIR-2 The project contractor shall only use interior paints with low VOC content with a maximum concentration of 30 grams per liter (g/L) for residential building architectural coating to reduce VOC emissions. All building and site plans shall note use of paints with a low VOC content with a maximum concentration of 30 g/L verified by the City of Costa Mesa prior to issuance of a building permit and during interior coating activities.

Impact 5.2-7

Refer to Mitigation Measures AIR-1 and AIR-2.

5.2.8 Level of Significance After Mitigation

Impact 5.2-1

Mitigation Measure AIR-1 would require the construction contractor to utilize newer, Tier 3, construction equipment fitted with Level 2 diesel particulate filters (DPF), which would reduce NO_X and PM emissions. Mitigation Measure AIR-2 requires the use of low VOC paints, which would reduce VOC emissions. As shown in Table 5.2-15, *Short Term Regional Peak Day Construction Emissions with Mitigation*, NO_X emissions would be reduced below the SCAQMD thresholds with implementation of Mitigation Measure AIR-1. However, even with implementation of Mitigation Measure AIR-2, VOC emissions would still exceed the applicable SCAQMD threshold. No other feasible mitigation exists to reduce VOC impacts from architectural coating. Thus, VOC emissions associated with project construction would result in a significant and unavoidable impact.

Table 5.2-15 Short-term Regional Peak Day Construction Emissions with Mitigation

Construction Phase	Maximum Daily Emissions (lbs/Day)[1]							
	VOC	NO_x	CO	SO_x	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	1	24	27	<1	3	<1	<1	<1
Site Preparation	1	19	23	<1	7	<1	4	<1
Grading	3	73	39	<1	7	<1	3	<1
Building Construction	4	24	41	<1	9	<1	3	<1
Paving	<1	11	18	<1	<1	<1	<1	<1
Architectural Coating	105	2	7	<1	3	<1	<1	<1
Maximum Daily Emissions[2]	**109**	**92**	**80**	**<1**	**17**		**8**	
SCAQMD Regional Threshold	**75**	**100**	**550**	**150**	**150**		**55**	
Exceeds Threshold?	**Yes**	No	No	No	No		No	

Source: LSA 2020.
Notes: lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District; VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur oxides; PM_{10} = particulate matter less than 10 microns in size; $PM_{2.5}$ = particulate matter less than 2.5 microns in size
1 Assumes the Building Construction, Paving, and Architectural Coating phases overlap. PM_{10} and $PM_{2.5}$ fugitive emissions are from the Mitigated results. The only "mitigation" applied in this modeling are required dust control measures per SCAQMD Rule 403.
2 Assumes worst-case emissions based on overlap of the grading, building construction, paving, and architectural coating phases.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

Impact 5.2-7

As described in Section 5.2.7, *Level of Significance After Mitigation*, the project's NOx emissions would be below the SCAQMD thresholds with implementation of Mitigation Measure AIR-1. However, even with implementation of Mitigation Measures AIR-2, the project's VOC emissions would exceed the established SCAQMD thresholds. Thus, the proposed project would have a significant and unavoidable cumulative impact for VOC emissions.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

5. Environmental Analysis
AIR QUALITY

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Chapter 5.3 Cultural Resources

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5.3 CULTURAL RESOURCES

Cultural resources comprise archaeological and historical resources. Archaeology studies human artifacts, such as places, objects, and settlements, that reflect group or individual religious, cultural, or everyday activities. Historical resources include sites, structures, objects, or places that are at least 50 years old and are significant for their engineering, architecture, cultural use, or association, etc. In California, historic resources cover human activities over the past 12,000 years. Cultural resources provide information on scientific progress, environmental adaptations, group ideology, or other human advancements. This section of Draft EIR evaluates the potential for project implementation to impact cultural resources. The analysis in this section is based in part on the following information:

- *Cultural Resource Survey Report*, *One Metro West*, *Costa Mesa, Orange County, California*, LSA, May 2019.

A complete copy of this study is included in the technical appendices of this Draft EIR (Volume II, Appendix D, *Cultural Resources Survey Report*).

5.3.1 Environmental Setting

5.3.1.1 REGULATORY BACKGROUND

Federal and State

National Historic Preservation Act

Enacted in 1966 and amended in 2000, the National Historic Preservation Act (NHPA) coordinates public and private efforts to identify, evaluate, and protect the nation's historic and archaeological resources. The act authorized the National Register of Historic Places (NRHP), which lists districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture. The NHPA also established the position of State Historic Preservation Officer (SHPO), provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP).

Section 106 (Protection of Historic Properties) of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties. Section 106 Review ensures historic properties are considered during Federal project planning and implementation. The Advisory Council on Historic Preservation, an independent Federal agency, administers the review process with assistance from the state historic preservation offices.

Secretary of the Interior's Standards for the Treatment of Historic Properties

Evolving from the *Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards* that were developed in 1976, the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* were published in 1995 and codified as Title 36, Section 67 of the Code of Federal Regulations (CFR). Neither technical nor prescriptive,

these standards are "intended to promote responsible preservation practices that help protect our Nation's irreplaceable cultural resources." "Preservation" acknowledges a resource as a document of its history over time and emphasizes stabilization, maintenance, and repair of existing historic fabric. "Rehabilitation" not only incorporates the retention of features that convey historic character, but also accommodates alterations and additions to facilitate continuing or new uses. "Restoration" involves the retention and replacement of features from a specific period of significance. "Reconstruction," the least used treatment, provides a basis for recreating a missing resource. These standards have been adopted, or are used informally, by many agencies at all levels of government to review projects that affect historic resources.

California Public Resources Code

Archaeological and historical sites are protected under a wide variety of State policies and regulations in the California Public Resources Code (Public Resources Code). In addition, cultural resources are recognized as nonrenewable resources and receive protection under the Public Resources Code and CEQA. CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources, or any object building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (CEQA Guidelines Section 15064.5[a][1-3]).

A resource is considered historically significant if it meets any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent resources cannot be left undisturbed, mitigation measures are required (Public Resources Code Section 21083.2[a], [b], and [c]). Public Resources Code Section 21083.2(g) defines a unique archaeological resource as 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 it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that 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; or

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Public Resources Code Sections 5097.9 to 5097.991 provide protection to Native American historical and cultural resources and sacred sites; identify the powers and duties of the Native American Heritage Commission (NAHC); require descendants to be notified when Native American human remains are discovered; and provide for treatment and disposition of human remains and associated grave goods.

Health and Safety Code

The discovery of human remains is regulated per California Health and Safety Code Section 7050.5, which states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation…until the coroner…has determined…that the remains are not subject to…provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible…. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and…has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines it meets one or more of the criteria modeled on the NRHP criteria.

Local

General Plan

The Historical and Cultural Resources Element of the General Plan includes the following goals, objectives, and policies to protect cultural resources within the City:

- **Goal HCR-1:** Historical, Archeological, and Paleontological Resource Preservation. The City of Costa Mesa supports focused efforts to provide residents with a sense of community and history through the protection and preservation of historical and cultural resources.
    - **Objective HCR-1A:** Encourage preservation and protection of the City's archaeological, paleontological, and historical resources.
        - **Policy HCR-1.1:** Encourage protection and enhancement of the diverse range of historical sites and resources in the City for the benefit of current and future residents and visitors.
        - **Policy HCR-1.2:** Encourage the preservation of significant historical resources (as identified in Table HCR-1) by developing and implementing incentives such as building and planning application permit fee waivers, Mills Act contracts, grants and loans, and implementing other incentives identified in the Historical Preservation Ordinance.
        - **Policy HCR-1.3:** Promote context-sensitive design that respects and celebrates the history and historical character of sites and resources while meeting contemporary needs of the community.
        - **Policy HCR-1.4:** Require, as part of the environmental review procedure, an evaluation of the significance of paleontological, archaeological, and historical resources, and the impact of proposed development on those resources.
        - **Policy HCR-1.5:** Continue to identify local landmarks with markers and way-finding signage. Include informational signage about local history, utilizing maps to highlight locations of other historical resources at popular historical sites.
        - **Policy HCR-1.7:** Require cultural resources studies (i.e., archaeological and historical investigations) for all applicable discretionary projects, in accordance with CEQA regulations. The studies should identify cultural resources (i.e., prehistorical sites, historical sites, and isolated artifacts and features) in the project area, determine their eligibility for inclusion in the California Register of Historical Resources, and provide mitigation measures for any resources in the project area that cannot be avoided. Cultural resources studies shall be completed by a professional archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistorical or historical archaeology.

- **Policy HCR-1.8:** Comply with requirements of the California Environmental Quality Act regarding protection and recovery of archaeological resources discovered during development activities.

Municipal Code

Municipal Code, Title 13, Chapter IX, Article 14, *Historic Preservation*, is intended to promote the public health, safety, and general welfare by providing for the identification, protection, enhancement, perpetuation and use of improvements, buildings, structures, sites, districts, neighborhoods, natural features and significant permanent landscaping having special historical, archaeological, cultural, architectural, or community value in the City. Pursuant to Article 14, no person, owner, or other entity shall restore, rehabilitate, alter, develop, construct, demolish, remove, or change the appearance of any cultural resource on the local Register of Historic Places without first having applied for and been granted a certificate of appropriateness to do so by the Planning Commission (or other commission/committee designated by the City Council).

5.3.1.2 EXISTING CONDITIONS

Prehistory

Of the many chronological sequences proposed for Southern California, two primary approaches are used in archaeological literature. The first, advanced by Wallace in 1955 and updated in 1978, is a typological approach that defines four cultural horizons, each with characteristic local variations: Early Horizon (9000–6500 BC), Milling Stone Horizon (6500–2000 BC), Intermediate Horizon (2000 BC–AD 200), and Late Prehistoric Horizon (AD 500–historic). The second is an ecological approach, with four periods in southern California prehistory defined by Warren (1984): Pinto (4000–3000 BC), Gypsum (1000 BC–AD 1), Saratoga Springs (AD 500–1000), and Protohistoric (AD 1500–historic). Warren viewed cultural patterns in terms of various significant environmental shifts, defining the ecological approach for archaeological research of the California deserts and coast. Many changes in settlement pattern and subsistence focus are viewed as cultural adaptations to a changing environment, beginning with the gradual environmental warming in the late Pleistocene and followed by the desiccation of the desert lakes during the early Holocene, a short return to pluvial conditions during the middle Holocene, and finally a general warming and drying trend, with periodic reversals, that continues to this day.

Ethnohistory

The Late Prehistoric Period ended in 1769, when Franciscan friars and Spanish soldiers began establishing mission outposts along the California coast. At that time, the project area was occupied by the Gabrielino Indians. The word "Gabrielino" refers to the Shoshonean (Takic) speaking Native Americans who lived throughout Los Angeles, western San Bernardino and Riverside, and Orange Counties, and who were historically affiliated with Mission San Gabriel Archangel. Some of these Shoshonean people also called themselves Tong-va.

The Gabrielino were hunters and gatherers who used both inland and coastal food resources. They caught and collected seasonally occurring food resources and evolved a semi-sedentary lifestyle, living in permanent and

semi-permanent villages along inland watercourses and coastal estuaries. These villages took advantage of the varied resources available at such locales. Seasonally, as foods became available, the Gabrielino moved to temporary gathering camps and collected plant foods such as acorns, buckwheat, chia, berries, or fruits. They also periodically established camps along the coast or at estuaries to gather shellfish or to hunt waterfowl.

The Gabrielino lived in small, semi-permanent villages that were the focus of family life. Patrilineally linked extended families lived within each village. These kin groups were affiliated in several village clans. Both the clans and the villages were apparently exogamous and patrilocal, as Mission records suggest that after her marriage, a woman resided at her husband's village.

Gabrielino villages were politically independent even when marriage ties existed. The village was administered by a headman who inherited his position from his father. Shamans guided religious and medical activities, and group hunting or fishing was supervised by individual male specialists.

An active and elaborate Gabrielino ritual system was present when the Spanish padres arrived to establish Mission San Gabriel. Rituals included individual rites of passage, village rites, and participation in the widespread Chinigchinich cult. The cult of the culture hero, Chinigchinich, was observed and recorded by Franciscan Friar Geronimo Boscana while he resided at Missions San Juan Capistrano and San Luis Rey.

Historical Setting

The first Europeans to visit Costa Mesa (literally translated to "coastal tableland" or "coastal plateau") were the padres from Mission San Juan Capistrano, which was founded in 1776. During the early 1800s, Capistrano cattle grazed in the Costa Mesa area, and in 1810, the area was part of the Spanish land grant of Santiago Del Santa Ana made to Jose Antonio Yorba. After Yorba passed away, settlers began buying portions of the rancho from his heirs and established the town of Fairview by 1880. In early 1889, a storm washed out the railroad and brought financial disaster to the community, which reverted to farming soon after.

By the same time, the town of Harper had been founded and its first post office was established in 1909. On May 11, 1920, Harper officially changed its name to Costa Mesa and continued to function and grow as an agricultural community. Building and oil drilling industries were beginning to bring continued growth to the City when the Great Depression hit Southern California. As a result, industries collapsed, and the local bank closed. The Long Beach earthquake hit the town in 1933, damaging businesses and a school.

World War II brought thousands of people to the area for training at the Santa Ana Army Air Base. After the war ended, men and women returned to the area with their families and began a population boom that continues to this day. On June 29, 1953, the City of Costa Mesa incorporated with an area of 3.5 square miles and a population of 16,840. By 1988, the City had grown to 17 square miles and the population had risen to 90,000; in 2005, the Census noted the City's population at more than 113,000 people.

History of the Project Area

The earliest aerial photograph for the project area dates to 1953, at which time the project area and surrounding land were undeveloped. Interstate 405 (I-405) was developed between 1963 and 1972, and the existing building

on the project site was constructed between 1972 and 1995. According to the aerial photographs, no changes have occurred within the project area since the building was constructed.

The earliest historic map of the project area dates to 1896 and shows the project area as being within the natural alignment of the Santa Ana River. The river was channelized prior to 1932, and development in the project area took place between 1974 and 1981. The project site is currently occupied by an approximate 345,000 square foot one-story industrial building, associated surface parking lot, drive aisles, hardscape improvements, and landscaping.

Records Search

A records search was conducted by LSA at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System, located at California State University, Fullerton. The records search included a review of all recorded historic and prehistoric archaeological sites within a 0.5-mile radius of the project area, as well as a review of known cultural resource survey and excavation reports (refer to Appendix B, *Record Search Results*, of Appendix D). The NRHP, CRHR, California Historical Landmarks, California Points of Historical Interest, and California Historic Resources Inventory were also examined.

The record search identified two previously conducted cultural resources studies that included portions of the project area and an additional 15 studies that have been conducted within 0.5-mile radius of the project area. The studies within the project area consist of a data compilation report and a Historic Property Survey Report (HPSR). Studies within 0.5 mile of the project area include a cultural resource evaluation, five archaeological surveys, a Phase II excavation, an environmental impact evaluation, two record search reviews, two HPSRs, an environmental impact report, a Finding of No Adverse Effect, and archaeological monitoring. Previous cultural resource work in the project vicinity has resulted in the recording of one cultural resource within 0.5 mile of the project area. No previously recorded cultural resources exist within the project area. The one resource within 0.5 mile of the project area is identified as an historic industrial building district.

Field Survey

LSA conducted an intensive-level field survey of the project area on April 11, 2019. The survey focused on open, undeveloped portions of the project area. On May 30, 2019, a supplemental survey was conducted of additional project areas consisting of off-site improvements (Sunflower Avenue).

At least 90 percent of the project area is either paved street, paved parking lot, or built environment containing an industrial warehouse. As such, the field surveys were restricted to open areas, which were mostly along the fenced periphery of the property and in ornamental vegetation areas along roads and walkways. The surveyed area consisted of grassy landscaping with less than five percent visibility. No archaeological resources were observed during the field survey.

5.3.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

C-1 Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

C-2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

C-3 Disturb any human remains, including those interred outside of dedicated cemeteries.

5.3.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, or programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to cultural resources.

PPP CUL-1 The proposed project is required to comply with California Public Resources Code 5097.9-5097.991 (which protects Native American historical and cultural resources, and sacred sites) and Health and Safety Code Section 7050.5 (pertaining to the discovery or recognition of any human remains).

5.3.4 Environmental Impacts

5.3.4.1 METHODOLOGY

Pursuant to CEQA requirements, LSA prepared a Cultural Resources Survey Report for the project site which included a record search, additional background research, and field surveys. Refer to Section 5.3.1.2, *Existing Conditions*, for a description of the Cultural Resources Survey Report's methodology.

5.3.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which significant impacts could occur. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.3-1: Development of the proposed project would not impact an identified historical resource. [Threshold C-1]

Impact Analysis:

Historical Resources

Under CEQA, a project has a significant impact on a historical resource if it "would result in the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the

significance of an historical resources would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1)). Material impairment would occur if the project would result in demolition or material alteration of those physical characteristics that convey the resource's historical significance (CEQA Guidelines Section 15064.5(b)(2))

As described above, there are no known potential historical resources in the study area. The existing building on the project site was constructed in 1975. As the existing building in the project area is not 50 years old, it is not old enough to be considered an historical resource. Thus, the proposed project would have no direct or indirect impact to known historical resources.

Level of Significance Before Mitigation: No Impact.

Impact 5.3-2: Development of the project could impact archaeological resources. [Threshold C-2]

Impact Analysis:

Archaeological Resources

No archaeological resources were identified in the records search or were observed during the field survey conducted by LSA in April 2019 and May 2019. There is very little likelihood of encountering archaeological resources during ground-disturbing project activities based on the project area's location within the prehistoric natural alignment of the Santa Ana River. Additionally, because nearly 90 percent of the project area is either paved street, paved parking lot, or built environment containing an industrial warehouse, the likelihood of encountering archaeological resources is further reduced. However, as proposed excavation could be as deep as 50 feet below ground surface, native soils would be encountered during excavation. As such, there still remains the possibility that undiscovered, buried archaeological resources could potentially be encountered where grading occurs in native soils. The potential to encounter previously undiscovered archaeological resources during grading is a potentially significant impact.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.3-3: Grading activities would not disturb human remains. [Threshold C-3]

Impact Analysis:

Human Remains

Due to the project area's urbanized environment, it is not anticipated that human remains, including those interred outside of dedicated cemeteries, would be encountered during excavation or grading activities. In the unlikely event that human remains are encountered, State Health and Safety Code Section 7050.5 states no further disturbance shall occur until the County coroner has made a determination of origin and disposition pursuant to State Public Resources Code Section 5097.98 (PPP CUL-1). The County coroner must be notified of the find immediately. If the remains are determined to be Native American, the County coroner would notify the NAHC, which would determine and notify a Most Likely Descendent (MLD). With the permission

of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The MLD recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials, preservation of Native American human remains and associated items in place, relinquishment of Native American human remains and associated items to the descendants for treatment, or any other culturally appropriate treatment. Following compliance with existing State regulations (PPP CUL-1), which detail the appropriate actions necessary in the event human remains are encountered, impacts concerning disturbance of human remains would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.3.5 Cumulative Impacts

Impact 5.3-4 Development of the proposed project and related projects would not result in cumulatively considerable impacts to historical resources. [Threshold C-1]

Impact Analysis:

Historical Resources

Table 4-2, *Related Projects*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. The potential destruction of historic resources associated with cumulative development could be cumulatively considerable. However, individual projects would be evaluated on a project-by-project basis to determine the extent of potential impacts to historic resources. Such investigations would identify resources on the affected project sites that are or appear to be eligible for listing on the National, California, or local registers. Such investigations would also recommend mitigation measures to reduce impacts to historic resources. Following adherence to Federal, State, and local statutes, as well as project-specific mitigation measures, related development would not result in cumulatively considerable impacts to historical resources.

As concluded in Section 5.3.4, *Environmental Impacts*, the project site does not support historical resources. Thus, the proposed project would not result in cumulatively considerable significant impacts to historical resources.

Level of Significance Before Mitigation: No Impact.

Impact 5.3-5 Development of the proposed project and related projects could result in cumulatively considerable impacts to archaeological resources. [Threshold C-2]

Impact Analysis:

Archaeological Resources

Like the proposed project, the related cumulative projects identified in Table 4-2 would be located within an urbanized environment on sites that have been previously disturbed as a result of existing development.

Nonetheless, the possibility remains that undiscovered, buried archaeological resources could potentially be encountered where grading encounters native soils. As discussed in Impact 5.3-2, the proposed project has the potential to impact buried or previously undiscovered archaeological resources during construction. Thus, the proposed project, combined with other related cumulative projects, may cause a cumulatively considerable significant impact to previously undiscovered archaeological resources. Potential cumulatively considerable significant impacts would result in this regard.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.3-6 Development of the proposed project and related projects would not result in cumulatively considerable impacts to human remains. [Threshold C-3]

Impact Analysis:

Human Remains

Like the proposed project, the related cumulative projects identified in Table 4-2 would be located within an urbanized environment on sites that have been previously disturbed as a result of existing development. Nonetheless, the possibility remains that human remains could be uncovered as a result of ground disturbance activities. The potential destruction of human remains associated with ground disturbance activities at cumulative project sites could be cumulatively considerable, due to the collective loss of human remains and knowledge regarding the culture of the people who lived at the respective sites. However, individual projects would be evaluated on a project-by-project basis to determine the extent of potential impacts to human remains. Such investigations would recommend mitigation measures to reduce impacts to cultural resources and would be required to demonstrate compliance with Section 5097.98 of the California Public Resources Code (PPP CUL-1). Following adherence to existing regulatory requirements, as well as project-specific mitigation measures, cumulative impacts to human remains would be reduced to less than significant levels.

As concluded in Section 5.3.4, *Environmental Impacts*, the project site has a low potential to support human remains. Further, compliance with Section 5097.98 of the California Public Resources Code (PPP CUL-1) would ensure cumulative impacts to burial sites are reduced to less than significant levels. Therefore, the project would not result in significant cumulatively considerable impacts to human remains; impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.3.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be no impact or less than significant: Impacts 5.3-1, 5.3-3, 5.3-4, and 5.3-6.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.3-2:** Development of the project could impact archaeological resources.

- **Impact 5.3-5**: Development of the proposed project and related projects could result in cumulatively considerable impacts to archaeological resources.

5.3.7 Mitigation Measures

Impact 5.3-2

CUL-1 Prior to issuance of grading permits, the City of Costa Mesa shall ensure a qualified archaeologist who meets the Secretary of the Interior's Standards for professional archaeology has been retained for the project and shall be on-call during all demolition and grading/excavation. The qualified archaeologist shall ensure the following measures are followed for the project:

- Prior to any ground disturbance, the qualified archaeologist, or their designee, shall provide worker environmental awareness protection training to construction personnel regarding regulatory requirements for the protection of cultural (prehistoric and historic) resources. As part of this training, construction personnel shall be briefed on proper procedures to follow should unanticipated cultural resources be discovered during construction. Workers shall be provided contact information and protocols to follow in the event that inadvertent discoveries are made. The training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the project.
- Prior to any ground disturbance, the applicant shall submit a written Project Monitoring Plan (PMP) to the City's Development Services Director for review and approval. The monitoring plan shall include monitor contact information, specific procedures for field observation, diverting and grading to protect finds, and procedures to be followed in the event of significant finds.
- In the event unanticipated cultural material is encountered during any stage of project construction, all construction work within 50 feet (15 meters) of the find shall cease and the qualified archaeologist shall assess the find for importance. Construction activities may continue in other areas. If the discovery is determined to not be important by the qualified archaeologist, work shall be permitted to continue in the area.
    - If warranted based on the qualified archaeologist's evaluation of the find, the archaeologist shall collect the resource and prepare a test-level report describing the results of the investigation. The test-level report shall evaluate the site including discussing the significance (depth, nature, condition, and extent of the resource), identifying final mitigation measures the City's Development Services Director shall verify are incorporated into future construction plans, and providing cost estimates.
    - If the qualified archaeologist determines that the find is prehistoric or includes Native American materials, affiliated Native American groups shall be invited to contribute

to the assessment and recovery of the resource, as applicable. The qualified archaeologist and any applicable Native American contacts shall collect the resource and prepare a test-level report describing the results of the investigation. The test-level report shall evaluate the site including discussion of significance (depth, nature, condition, and extent of the resources), final mitigation recommendations, and cost estimates.

- Salvage operation requirements pursuant to Section 15064.5 of the CEQA Guidelines shall be followed. Work within the area of discovery shall resume only after the resource has been appropriately inventoried, documented, and recovered, as applicable.

Impact 5.3-5

Refer to Mitigation Measure CUL-1.

5.3.8 Level of Significance After Mitigation

Impact 5.3-2

As noted in Impact 5.3-2, no archaeological resources were identified in the records search or observed during the field survey conducted by LSA in April 2019 and May 2019. Additionally, there is very little likelihood of encountering archaeological resources during the project's ground-disturbing activities based on the project site's developed condition and its location within the prehistoric natural alignment of the Santa Ana River. Nonetheless, implementation of Mitigation Measure CUL-1 would ensure the project applicant and construction contractors are aware of potential undocumented cultural resources in native soils on-site and have specified construction-related procedures in place to ensure these potentially uncovered resources are not damaged during grading and construction activities. The mitigation measure requires any archaeological resources encountered during project ground-disturbing activities be preserved and/or recovered, evaluated, and curated, if necessary, by a qualified archaeologist, thus reducing potential impacts associated with archaeological resources to a level that is less than significant. With implementation of Mitigation Measure CUL-1, impacts would be reduced to less than significant levels.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.3-5

Refer to the discussion above. With implementation of Mitigation Measure CUL-1, project impacts to archaeological resources would be less than significant and would not be cumulatively considerable.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

5. Environmental Analysis
CULTURAL RESOURCES

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Chapter 5.4 Energy

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5.4 ENERGY

This section of the Draft EIR addresses the proposed project's impacts related to energy. Information found herein, as well as other aspects of the proposed project's energy implications, are discussed in greater detail in Sections 3.0, *Project Description*, 5.2, *Air Quality*, 5.6, *Greenhouse Gas Emissions*, 5.13, *Transportation*, and 5.15, *Utilities and Services Systems*. The analysis in this section is based in part on:

- *Air Quality and Greenhouse Gas Impact Analysis* (Air Quality/GHG Report), prepared by LSA and dated January 2020.

A complete copy of this study is provided in this Draft EIR (Volume II, Appendix C, *Air Quality and Greenhouse Gas Impact Analysis*).

5.4.1 Environmental Setting

5.4.1.1 REGULATORY BACKGROUND

Federal

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the Federal government. The act sets increased Corporate Average Fuel Economy (CAFE) Standards; the Renewable Fuel Standard (RFS); appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration (EPA 2019).

State

Renewables Portfolio Standard

The California Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill (SB) 1078 and amended most recently in 2018. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The California Public Utilities Commission (CPUC) is required to provide quarterly status reports on progress toward RPS goals. The RPS has accelerated the development of renewable energy projects throughout the State. Based on the 3rd quarter 2014 report, the three largest retail energy utilities provided an average of 20.9 percent of its supplies from renewable energy sources. Since 2003, 8,248 megawatts (MW) of renewable energy projects have started operations.

SB 350 was signed into law in September 2015 and establishes tiered increases to the RPS: 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. SB 100, passed in 2018, puts California on the path to 100 percent fossil-fuel free electricity by 2045 (CEC 2017a).

State Alternative Fuels Plan

The State Alternative Fuels Plan (SAFP) was signed into law under Assembly Bill (AB) 1007 and requires the California Energy Commission (CEC) to prepare a plan to increase the use of alternative fuels in California. The SAFP was prepared by the CEC with the California Air Resources Board (CARB) and in consultation with other Federal, State, and local agencies to reduce petroleum consumption; increase use of alternative fuels (e.g., ethanol, natural gas, liquefied petroleum gas, electricity, and hydrogen); reduce greenhouse gas (GHG) emissions; and increase in-state production of biofuels. The SAFP recommends a strategy that combines private capital investment, financial incentives, and advanced technology that will increase the use of alternative fuels; result in significant improvements in the energy efficiency of vehicles; and reduce trips and vehicle miles traveled (VMT) through changes in travel habits and land management policies. The Alternative Fuels and Vehicle Technologies Funding Program legislation (AB 118, Statutes of 2007) proactively implements this plan (CEC 2007).

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations (California Code of Regulations [CCR] Title 20, Parts 1600–1608) contain energy performance, energy design, water performance, and water design standards for appliances (e.g., refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California. These standards are updated regularly to allow consideration of new energy efficiency technologies and methods (CEC 2017b).

Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission, now the CEC, in June 1977. The Building Energy Efficiency (BEE) Standards, more commonly known as Title 24, requires the design of building shells and building components in a manner that conserves energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 BEE Standards, which went into effect on January 1, 2017. The 2019 BEE Standards were recently adopted on May 9, 2018 and take effect January 1, 2020.

The 2016 BEE Standards improve upon the previous 2013 BEE Standards for new construction, additions, and alterations to residential and non-residential buildings. Under the 2016 BEE Standards, residential and non-residential buildings are generally 28 and 5 percent more energy efficient than those constructed under the 2013 BEE Standards, respectively. Buildings that were constructed in accordance with the 2013 BEE Standards are 25 percent (residential) to 30 percent (non-residential) more energy efficient than that constructed under the previous 2008 BEE Standards as a result of better windows, insulation, lighting, ventilation systems, and other features. Although the 2016 BEE Standards do not achieve zero net energy, the reductions nearly achieve the State's goal and take important steps toward changing residential building practices in California.

The 2019 BEE Standards move toward reducing energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less. The 2019 BEE Standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and non-residential ventilation requirements; 4) and non-residential lighting requirements (CEC 2018a). Under the 2019 BEE Standards, multi-family buildings will be 30 percent more energy efficient compared to those constructed under the 2016 BEE Standards, and single-family homes will be seven percent more energy efficient due to energy conservation associated with more stringent photovoltaic system, thermal envelope, ventilation, and lighting requirements (CEC 2018b).

Green Building Standards Code On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (CALGreen; CCR Title 24 CCR, Part 11) was adopted as part of the California Building Standards Code. It includes mandatory requirements for new residential and non-residential buildings throughout California. CALGreen is intended to reduce GHG emissions from buildings; promote environmentally responsible, cost-effective, healthier places to live and work; reduce energy and water consumption; and respond to the directives by the Governor. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2016. The 2016 CALGreen became effective on January 1, 2017. On October 3, 2018, the CEC adopted the voluntary standards of the 2019 CALGreen, which takes effect on January 1, 2020.

Overall, CALGreen was established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impacts during and after construction. CALGreen contains requirements for construction site selection; stormwater control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. CALGreen provides for flexible design options, allowing the designer to determine how best to achieve compliance for a given site or building condition. CALGreen also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency (CBSC 2019).

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean car standard intended to reduce GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles). California implements the Pavley I standards through a waiver granted to California by the United States Environmental Protection Agency (EPA). In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles. In January 2012, CARB approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under the Pavley Advanced Clean Car program, new automobiles are anticipated to emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions by 2025 (CARB 2017).

Local

General Plan

The Conservation Element of the General Plan includes the following goals, objectives, and policies to encourage energy conservation within the City:

- **Objective CON-2.A:** Work to conserve energy resources in existing and new buildings, utilities, and infrastructure.
  - **Policy CON-2.A.1:** Promote efficient use of energy and conservation of available resources in the design, construction, maintenance, and operation of public and private facilities, infrastructure, and equipment.
  - **Policy CON-2.A.2:** Consult with regional agencies and utility companies to pursue energy efficiency goals. Expand renewable energy strategies to reach zero net energy for both residential and commercial new construction.
  - **Policy CON-2.A.3:** Continue to develop partnerships with participating jurisdictions to promote energy efficiency, energy conservation, and renewable energy resource development by leveraging the abilities of local governments to strengthen and reinforce the capacity of energy efficiency efforts.
  - **Policy CON-2.A.4:** Encourage new development to take advantage of Costa Mesa's optimal climate in the warming and cooling of buildings, including use of heating, ventilation and air conditioning (HVAC) systems.
  - **Policy CON-2.A.5:** Promote environmentally sustainable development principles for buildings, master planned communities, neighborhoods, and infrastructure.
  - **Policy CON-2.A.6:** Encourage construction and building development practices that reduce resource expenditures throughout the lifecycle of a structure
  - **Policy CON-4.A.7:** Encourage installation of renewable energy devices for businesses and facilities and strive to reduce communitywide energy consumption.

5.4.1.2 EXISTING CONDITIONS

Electricity

The project site is in the service area of Southern California Edison (SCE), which has a service area that spans much of southern California from Orange and Riverside counties to the south to Santa Barbara County on the west and Mono County to the north. Total mid-electricity consumption in SCE's service area was 106,080 gigawatt-hour (GWh) in 2015 and is forecast to increase to 118,803 GWh in 2027 (CEC 2015a).

Operation of the existing industrial building on-site consumes electricity for various purposes, including, but not limited to, heating, cooling, and ventilation of buildings; water heating; operation of electrical systems;

security and control center functions; lighting; and use of on-site equipment and appliances. Based on historical electricity consumption data, the existing industrial building consumed an average of 3,489,138 kilowatt-hours (kWh) annually. Existing electricity consumption on-site is shown in Table 5.4-1, *Existing Electricity Consumption*.

Table 5.4-1 Existing Electricity Consumption

Land Use	Electricity (kWh/year)
Existing Building	3,333,210
Existing Parking Lot	155,928
Total	**3,489,138**

Source: Refer to Appendix C.
Notes: kWh/year = kilowatt-hours per year

Natural Gas

The Southern California Gas Company (SoCalGas) provides natural gas services to Costa Mesa, including the project site. SoCalGas' service area spans much of southern California from Imperial County on the southeast, to San Luis Obispo County on the northwest, to part of Fresno County on the north, and to Riverside County and most of San Bernardino County on the east (CEC 2015b). Total natural gas supplies available to SoCalGas was approximately 3,055 million cubic feet per day (MMcf/day) in 2018 and approximately 3,385 MMcf/day in 2019 (CGEU 2018). In 2018, total natural gas consumption in SoCalGas' service area was approximately 719,423 MMcf, which is equivalent to 1,971 MMcf/day (CEC 2019).

The existing industrial building on-site generates an average natural gas demand of 7,633,560 kilo British thermal units (kBTU) per year; refer to Table 5.4-2, *Existing Natural Gas Consumption*.

Table 5.4-2 Existing Natural Gas Consumption

Land Use	Natural Gas (kBTU/year)
Existing Building	7,633,560
Existing Parking Lot	0
Total	**7,633,560**

Source: Refer to Appendix C.
Notes: kBTU/year = kilo British thermal units per year

5.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

E-1 Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

E-2 Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

5.4.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approvals (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to energy.

PPP EN-1 New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and the California Green Building Standards Code (CALGreen; Title 24, Part 11). The 2016 Building and Energy Efficiency Standards became effective starting January 1, 2017, and the 2019 Building and Energy Efficiency Standards will become effective January 1, 2020. The Building Energy and Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve zero net energy for residential buildings by 2020 and non-residential buildings by 2030.

PPP EN-2 To reduce water demands and energy use associated with landscape water use, the proposed project is required to implement a landscaping palette emphasizing drought-tolerant plants and water-efficient irrigation techniques consistent with provisions of the City's Model Water Efficient Landscape Ordinance (MWELO; Ordinance No. 16-03) requirements.

PPP EN-3 To reduce water demands and associated energy use associated with indoor water use, the proposed project is required to provide plumbing fixtures that meet the United States Environmental Protection Agency (EPA) Certified WaterSense, 2019 California Green Building Standards Code (CALGreen) standards or equivalent, faucets, toilets, and other plumbing fixtures. The water conservation strategy is required to demonstrate a minimum 20 percent reduction in indoor water usage compared to baseline water demand (total expected water demand without implementation of the water conservation strategy).

PPP EN-4 The construction contractor is required to recycle/reuse at least 50 percent of the construction material including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard, and to use "green building materials" such as those materials that are rapidly renewable or resource-efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the project, as specified in the California Department of Resources Recycling and Recovery (CalRecycle) Sustainable (Green) Building Program.

PPP EN-5 Per the 2019 California Green Building Standards Code (CALGreen) standards, construction of the proposed project is required to include installation of electric vehicle (EV) charging stations and designated EV parking at non-residential and residential buildings. Preferential parking for low-emitting, fuel-efficient, and carpool/car share/van vehicles is required in all parking areas.

PPP EN-6 Construction contractors are required to minimize non-essential idling of construction equipment during construction in accordance with California Code of Regulations (CCR) Section 2449, Title 13, Article 4.8, Chapter 9.

5.4.4 Environmental Impacts

5.4.4.1 METHODOLOGY

Per CEQA Guidelines Appendix F, *Energy Conservation*, in order to ensure energy implications are considered in project decisions, 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 energy consumption (Public Resources Code Section 21100(b)(3)). Environmental effects may include:

- The proposed project's energy requirements and its energy use efficiencies by amount and fuel type during demolition, construction, and operation;
- The effects of the proposed project on local and regional energy supplies;
- The effects of the proposed project on peak and base period demands for electricity and other forms of energy;
- The degree to which the proposed project complies with existing energy standards;
- The effects of the proposed project on energy resources; and
- The proposed project's projected transportation energy use requirements and its overall use of efficient transportation alternatives, if applicable.

5.4.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance that may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.4-1: The project would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. [Threshold E-1]

Impact Analysis:

Construction

Construction of the proposed project would create temporary increased demands for electricity and vehicle fuels compared to existing conditions and would result in short-term transportation-related energy use.

Electricity

Construction of the proposed project would require electricity to power construction equipment. The electricity use during construction would vary during different stages of construction. For example, the majority of construction equipment utilized during demolition and grading would be gasoline- or diesel-powered, and the later construction stages for interior construction and architectural coating would utilize electricity-powered equipment. Overall, electricity use would be temporary in nature and would fluctuate according to construction stages. Additionally, it is anticipated that the majority of electric-powered construction equipment would be hand tools (e.g., power drills, table saws, and compressors) and lighting, which would result in minimal electricity

consumption. Therefore, project-related construction activities would not result in wasteful or unnecessary electricity demands and impacts would be less than significant in this regard.

Natural Gas

Construction equipment associated with the proposed project would not be powered by natural gas; therefore, no natural gas demand is anticipated during construction. No impact would occur in this regard.

Transportation

Transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. During construction, transportation energy use would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that utilize diesel fuel and/or gasoline. The use of energy resources by these vehicles fluctuate according to the construction stage and would be temporary in nature. As stated above, the majority of off-road construction equipment, such as those used during demolition and grading, are anticipated to be gasoline- or diesel-powered. Construction contractors are required to minimize non-essential idling of construction equipment during construction in accordance with CCR Section 2449, Title 13, Article 4.8, Chapter 9 (see PPP EN-6). Such required practices would limit wasteful and unnecessary energy consumption. Therefore, it is expected that construction fuel associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than similar development projects and impacts would be less than significant with respect to transportation energy.

Operations

Project operations would create additional demands for electricity and natural gas compared to existing conditions through increased transportation energy use; heating, cooling, and ventilation of buildings; water heating; operation of electrical systems, use of on-site equipment and appliances; and indoor, outdoor, perimeter, and parking lot lighting.

Electricity

As previously stated, the existing industrial building on-site consumes an annual average of 3,489,138 kWh. The proposed project would demolish the existing building and parking lot, and redevelop the site with residences, retail, office, associated parking, and an open space area. Existing and proposed electricity consumption for the project site are shown in Table 5.4-3, *Project Electricity Consumption*.

Table 5.4-3 Project Electricity Consumption

Land Use	Electricity (kWh/year)
Existing Conditions	
Existing Building	3,333,210
Existing Parking Lot	155,928
Subtotal – Existing Conditions	*3,489,138*
Proposed Project	
Open Space	0
Residential	3,357,260
Creative Office	262,313
Specialty Retail	51,480
Enclosed Parking with Elevator	2,102,570
Unenclosed Parking with Elevator	453,378
Subtotal – Proposed Project	*6,227,001*
Net Increase	**+2,737,863**

Source: Refer to Appendix C.
Notes: kWh/year = kilowatt-hours per year

Electrical service to the proposed project would be provided by SCE through connections to existing off-site electrical lines and new on-site infrastructure. As shown in Table 5.4-3, electricity usage on-site would increase by approximately 2,737,863 kWh/year, or approximately 78 percent, compared to existing conditions. This is primarily due to electricity usage associated with the proposed residential uses and enclosed parking structures.

The project would be required to comply with PPP EN-1 through PPP EN-5. These existing regulations would require the proposed project to meet 2019 California Building Energy and Efficiency (Title 24) Standards and 2019 CALGreen Standards; implement a landscaping palette that emphasizes drought-tolerant plants and water-efficient irrigation techniques; reducing water demand by installed certified plumbing fixtures; and recycle/reuse at least 50 percent of construction materials. The project would also encourage sustainable design features to conserve energy and reduce greenhouse gas emissions, including, but not limited to:

- Limiting landscape irrigation when possible and incorporating drought-tolerant plant species and non-potable water sources;
- Installing green roofs, using alternative paving materials, and providing tree canopy shading;
- Installing solar ready rooftops;
- Utilizing recycled and reclaimed materials for surface parking areas, sidewalks, unit paving, and curbs;
- Incorporating permeable paving, low-glare and low-heat intensive surfaces; and
- Promoting stormwater retention through capture and harvest for re-use in landscaped areas.

Upon implementation of PPP EN-1 through PPP EN-5, the project would not result in wasteful or unnecessary electricity demands. Therefore, the proposed project would not result in a significant impact related to electricity.

Natural Gas

Existing and proposed natural gas consumption on-site is detailed in Table 5.4-4, *Project Natural Gas Consumption*.

Table 5.4-4 Project Natural Gas Consumption

Land Use	Natural Gas (kBTU/year)
Existing Conditions	
Existing Building	7,633,560
Existing Parking Lot	0
Subtotal – Existing Conditions	*7,633,560*
Proposed Project	
Open Space	0
Residential	12,078,800
Creative Office	228,500
Specialty Retail	12,000
Enclosed Parking with Elevator	0
Unenclosed Parking with Elevator	0
Subtotal – Proposed Project	*12,319,300*
Net Increase	**+4,685,740**

Sources: Refer to Appendix C.
Notes: kBTU/year = kilo British thermal units per year

As shown, natural gas demand would increase with project development due to higher natural gas consumption from the proposed residential, specialty retail, and creative office uses. Natural gas usage on-site would increase by approximately 4,685,740 kBTU/year, or approximately 62 percent beyond existing conditions. However, because the proposed project would be required to comply with the BEE Standards and CALGreen pursuant to PPP EN-1, it would not result in wasteful or unnecessary natural gas demands. Furthermore, the proposed project would be more energy efficient than the existing industrial building due to more stringent California BEE Standards and CALGreen requirements, and the Specific Plan includes several development standards related to energy efficiency and conservation, as detailed above. Therefore, project operations would result in less than significant impacts with respect to natural gas usage.

Transportation

The proposed project would consume transportation energy during operations from motor vehicle use. Because the efficiency of motor vehicle use (e.g., average miles per gallon) are unknown and varied, estimates of transportation energy use is assessed based on overall VMT and related transportation energy use.

Total annual VMT for the existing industrial building is approximately 1,896,668 miles; refer to Appendix C. The proposed project would increase total annual VMT by approximately 13,757,664 miles, to a total of 15,654,332 miles. The proposed project is an infill development that would provide residential development within a highly urbanized area with nearby employment opportunities, dining, amenities, and public transit options. The project site's close proximity to employment opportunities and amenities has the potential to reduce project-generated VMT and associated transportation energy use. In addition, the proposed project would include bicycle racks, storage, and lockers in addition to bicycle repair facilities and would potentially host community-wide bicycle-share programs. These project features would contribute in minimizing VMT and transportation-related fuel usage. Thus, it is expected that operation-related fuel usage associated with the

proposed project would not be any more inefficient, wasteful, or unnecessary than similar development projects. Therefore, impacts would be less than significant in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.4-2: The project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. [Threshold E-2]

Impact Analysis:

The proposed project would be constructed in accordance with BEE Standards and CALGreen requirements. The BEE Standards and CALGreen are updated tri-annually with a goal to achieve zero net energy for residential buildings by 2020 and non-residential buildings by 2030. The non-residential standard applies to multi-family buildings over three stories in height. The proposed project would also provide solar ready hook-ups to meet the 2030 zero net energy goal.

The City does not have an applicable local plan for renewable energy or energy efficiency. Therefore, the proposed project would not conflict with any State or local plan for renewable energy or energy efficiency, and impacts are less than significant in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.4.5 Cumulative Impacts

Impact 5.4-3: The project would not result in a cumulatively significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. [Threshold E-1]

Impact Analysis:

Related projects considered for cumulative impacts to electricity and natural gas supplies are those within SCE and SoCalGas' service areas, respectively. Cumulative projects would increase electricity and natural gas demands. However, all projects within the SCE and SoCalGas service areas would be required to comply with the BEE Standards and CALGreen requirements, which would help minimize wasteful energy consumption. Other related projects in the project vicinity would also increase transportation energy demands. There is a Statewide effort to reduce transportation energy through stringent fuel economy standards and reduced VMT by placing new residences near employment centers and transit priority areas. Additionally, as stated, CARB approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under the Pavley Advanced Clean Cars program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions. Therefore, cumulative impacts would be less than significant.

As discussed, the project would increase electricity and natural gas demands on-site compared to existing conditions. However, the project would be required to comply with PPP EN-1 through EN-6 related to

compliance with the BEE Standards and CALGreen. The Specific Plan also includes a number of development standards related to energy conservation and energy efficiency as listed above. As the project would result in less than significant impacts in this regard, the project's cumulative impacts would not be cumulatively considerable.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.4-4: The proposed project, in combination with related projects, would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. [Threshold E-2]

Impact Analysis:

The project and cumulative projects within the project area would utilize electricity provided by SCE. It is anticipated that SCE's energy portfolio will be comprised of approximately 33 percent renewable energy by 2020 and 50 percent renewable energy by 2030. Furthermore, the project and other cumulative projects in the vicinity would be subject to the most current version of the BEE Standards and CALGreen pursuant to PPP EN-1. As the project would result in less than significant impacts in regard to conflicting with State or local plans for renewable energy or energy efficiency, the project's cumulative impacts would not be cumulatively considerable. Impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.4.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be less than significant: Impacts 5.4-1 through 5.4-4.

5.4.7 Mitigation Measures

No mitigation measures are required.

5.4.8 Level of Significance After Mitigation

Impacts would be less than significant.

Chapter 5.5 Geology and Soils

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5.5 GEOLOGY AND SOILS

This section of the Draft EIR evaluates the potential for the project to impact geological and soil resources, paleontological resources, or unique geologic features. The analysis in this section is based in part on the following technical reports:

- *Preliminary Geotechnical Investigation, Proposed Multi-Family Residential Development 1683 Sunflower Avenue, Costa Mesa, California* (Preliminary Geotechnical Investigation), Geocon West Inc., July 24, 2019.
- *Paleontological Resources Assessment, One Metro West Project, Costa Mesa, Orange County, California* (Paleontological Resources Assessment), LSA, June 2019.

A complete copy of these studies are included in the technical appendices to this Draft EIR (Volume II, Appendix E, *Preliminary Geotechnical Investigation*, and Appendix F, *Paleontological Resources Assessment*, respectively).

5.5.1 Environmental Setting

5.5.1.1 REGULATORY FRAMEWORK

Refer to Section 5.8, *Hydrology and Water Quality*, for a discussion of Federal, State, and regional laws, regulations, plans or guidelines in place to reduce impacts related to soil erosion and loss of topsoil.

Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1997 to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." It established the National Earthquake Hazard Reduction Program (NEHRP), which refined the description of agency responsibilities, program goals, and objectives. NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards.

Uniform Building Code

The Uniform Building Code (UBC) is published by the International Conference of Building Officials and forms the basis for California Building Code (CBC), as well as approximately half of the state building codes in the United States. It has been adopted by the California Legislature to address the specific building conditions and structural requirements for California, as well as provide guidance on foundation design and structural engineering for different soil types. The UBC defines and ranks the regions of the United States according to

their seismic hazard potential. There are four types of regions defined by Seismic Zones 1 through 4, with Zone 1 having the least seismic potential and Zone 4 having the highest.

U.S. Geological Survey Landslide Hazard Program

The primary objective of the U.S. Geological Survey (USGS) Landslide Hazard Program is to reduce long-term losses from landslide hazards by improving our understanding of the causes of ground failure and suggesting mitigation strategies. The Landslide Hazard Program provides information on landslide hazards, including information on current landslides, landslide reporting, real-time monitoring of landslide areas, mapping of landslides through the National Landslide Hazards Map, local landslide information, landslide education, and research. The Landslide Hazard Program works closely with States, other bureaus within the Department of the Interior, and other Federal and State agencies to reduce landslide losses.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was signed into State law in 1972. Its primary purpose is to mitigate the hazard of fault rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. The act delineates "Earthquake Fault Zones" along faults that are "sufficiently active" and "well defined." The act also requires cities and counties withhold development permits for sites within an earthquake fault zone until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting. Pursuant to this act, structures for human occupancy are not allowed within 50 feet of the trace of an active fault.

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act (SHMA) was adopted by the State in 1990 to protect the public from the effects of non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, seismically induced landslides, or other ground failure caused by earthquakes. The goal of the AHMA is to minimize loss of life and property by identifying and mitigating seismic hazards. The California Geological Survey (CGS) prepares and provides local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. SHMA requires responsible agencies to only approve projects within seismic hazard zones following a site-specific investigation to determine if the hazard is present, and if so, the inclusion of appropriate mitigation(s). In addition, the SHMA requires real estate sellers and agents at the time of sale to disclose whether a property is within a designated Seismic Hazard Zone.

California Building Code

Current law states every local agency enforcing building regulations, such as cities and counties, must adopt the provisions of the California Building Code (CBC) within 180 days of its publication. The publication date of the CBC is established by the California Building Standards Commission, and the CBC is also known as Title 24, Part 2 of the California Code of Regulations. The most recent building standard adopted by the legislature and used throughout the State is the 2019 version of the CBC (effective January 1, 2020). The CBC provides

minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground shaking with specified probability of occurring at a site.

Natural Hazards Disclosure Act

The Natural Hazards Disclosure Act requires sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property being sold lies within one or more State-mapped hazard areas, including a Seismic Hazard Zone. California law also requires when houses built before 1960 are sold, the seller must give the buyer a completed earthquake hazards disclosure report and a booklet titled "The Homeowners Guide to Earthquake Safety." This publication was written and adopted by the California Seismic Safety Commission.

Soils Investigation Requirements

Requirements for soils investigations for subdivisions requiring tentative and final maps, and for other specified types of structures, are in California Health and Safety Code Sections 17953–17955 and in Section 1802 of the California Building Code. Testing of samples from subsurface investigations is required, such as from borings or test pits. Studies must be done as needed to evaluate slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on load-bearing capacity, compressibility, liquefaction, differential settlement, and expansiveness.

California Public Resources Code

Paleontological sites are protected under a wide variety of State policies and regulations in the California Public Resources Code. In addition, paleontological resources are recognized as nonrenewable resources and receive protection under the Public Resources Code and CEQA. Public Resources Code Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244 states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

This statute prohibits the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the State or any city, county, district, authority, or public corporation, or any agency thereof. As a result, local agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others. Public Resources Code Section 5097.5 also establishes the removal of paleontological

resources as a misdemeanor and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public (State, county, city, and district) lands.

Local

General Plan

The Safety Element of the General Plan includes the following goals, objectives, and policies pertaining to geology and soils:

- **Goal S-1:** Risk Management of Natural and Human-Caused Disasters. Minimize the risk of injury, loss of life, property damage, and environmental degradation from seismic activity, geologic hazards, flooding, fire, and hazardous materials. Promote a sustainable approach to reduce impacts of natural disasters, such as flooding and fire.
    - **Objective S-1A:** Work to mitigate and prevent potential adverse consequences of natural and human-caused disasters.
        - **Policy S-1.1:** Continue to incorporate geotechnical hazard data into future land use decision-making, site design, and construction standards.
        - **Policy S-1.5:** Enforce applicable building codes relating to the seismic design of structures to reduce the potential for loss of life and property damage.
        - **Policy S-1.7:** Continue to implement the Seismic Hazard Mapping Act, which requires sites within liquefaction hazard areas to be investigated for liquefaction susceptibility prior to building construction or human occupancy.
        - **Policy S-1.8:** Consider site soils conditions when reviewing projects in areas subject to liquefaction or slope instability.

Municipal Code

Section 5-1, *Construction Codes Adopted*, of the Municipal Code adopts the CBC, 2016 Edition, based on the 2015 International Building Code (IBC) as published by the International Code Council for the purpose of prescribing regulations for construction, demolition, occupancy, equipment use, height, and area of buildings and structures.

Costa Mesa Disaster Plan

The Costa Mesa Disaster Plan serves as the community's Emergency Operations Plan (EOP), which provides guidance during emergency situations and natural disasters. The plan addresses potential large-scale disasters that require a coordinated and immediate response.

The EOP identifies key personnel and agencies in the Costa Mesa Emergency Management Organization that are organized to protect life and property in the community. The EOP also identifies sources of outside support that may be provided by State and Federal agencies, the private sector, and through mutual aid by other jurisdictions. In addition, the EOP specifies emergency operations to be implemented during an emergency, assigns responsibilities, and provides an explanation of how the plan is to be administered. These activities involve a number of City departments and facilities, including the Police Department, Fire Department, public health officials, and care and shelter operations.

5.5.1.2 EXISTING CONDITIONS

Regional Geologic Setting

The project site is located in the central portion of the Orange County Coastal Plain, a relatively flat-lying alluviated surface with an average slope of less than 20 feet per mile. The lowland surface is bounded by hills and mountains on the north and east and by the Pacific Ocean to the south and southwest. Prominent structural features within the Orange County Coastal Plain include the central lowland plain, the northwest trending line of low hills and mesas near the coast underlain by the Newport-Inglewood Fault Zone, and the San Joaquin Hills to the southeast.

According to the General Plan Safety Element, the main development of Costa Mesa is primarily on an uplifted mesa (Newport Mesa) bounded on the west, south, and east by steep cliffs. Newport Mesa slopes gently northward from an elevation of 80 to 110 feet above sea level at the southern crest of the mesa to less than 40 feet above sea level at the northern boundary of the City. Approximately 80 percent of the City is located on this mesa.

Regional Faulting

The project site is not within a State-designated Alquist-Priolo Earthquake Fault Zone for surface fault rupture hazards (CGS 2018). No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site nor in the immediate vicinity. However, the site is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults.

The closest surface trace of an active fault to the site is the Newport-Inglewood Fault Zone located approximately 3.7 miles to the southwest. Other nearby active faults are the Whittier Fault, the Elsinore Fault Zone, and the Palos Verdes Fault (Offshore Segment) located approximately 16 miles northeast, 20.5 miles northeast, and 14.5 miles southwest of the site, respectively. The active San Andreas Fault Zone is located approximately 48 miles northeast of the site (CGS 2018). The faults in the vicinity of the site are shown on Figure 3, *Regional Fault Map*, of the Preliminary Geotechnical Investigation (refer to Appendix E).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin (including the Orange County Coastal Plain) at depth. The San Joaquin Thrust underlies the site at depth. This thrust fault and others in the greater Los Angeles/Orange County area are not exposed at the surface and do not present a potential surface fault rupture hazard at the site; however, these deep thrust faults are considered active

features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site.

Regional Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. Table 5.5-1, *List of Historic Earthquakes in Southern California*, shows moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years and includes the distance and direction of the proposed site to the epicenter of each earthquake listed.

Table 5.5-1 List of Historic Earthquakes in Southern California

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
Near Redlands	July 23, 1923	6.3	44	E/NE
Long Beach	March 10, 1933	6.4	6	S/SW
Tehachapi	July 21, 1952	7.5	109	NW
San Fernando	February 9, 1971	6.6	56	NW
Whittier Narrows	October 1, 1987	5.9	27	N/NW
Sierra Madre	June 28, 1991	5.8	39	N
Landers	June 28, 1992	7.3	92	E/NE
Big Bear	June 28, 1992	6.4	72	E/NE
Northridge	January 17, 1994	6.7	50	NW
Hector Mine	October 16, 1999	7.1	114	E/NE

Source: Geocon West 2019; refer to Appendix E.

Local Geologic Setting

Based on the Preliminary Geotechnical Investigation, the project site is underlain by artificial fill and unconsolidated Holocene age alluvial fan deposits consisting of sand, silt, and clay. Artificial fill was encountered in field explorations to a maximum depth of 5.5 feet below ground surface (bgs). The artificial fill generally consists of light brown to brown to gray brown silty sand and sandy silt and sandy clay. The artificial fill is characterized as slightly moist to moist and soft to firm or medium dense. The fill is likely the result of past grading or construction activities at the site.

The artificial fill is underlain by Holocene age alluvial fan deposits that generally consist of brown to olive and gray brown sandy clay, sandy silt, clay, and both poorly graded and well-graded sands. In general, the upper 20 to 25 feet of alluvial deposits consist of relatively soft to firm clay and silt which is underlain by approximately 10 to 15 feet of medium dense to dense sand.

Groundwater

According to the Preliminary Geotechnical Investigation, the historically highest groundwater level in the area is approximately 10 feet bgs. Groundwater was encountered on site at depths ranging from approximately 10 to 20 feet bgs. Seepage was also noted at seven feet during project borings.

Geologic Hazards

Liquefaction

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. The State of California Seismic Hazard Zone Map for the Anaheim and Newport Beach Quadrangle indicates the site is in an area identified as having a potential for liquefaction. Also, according to the General Plan Safety Element, the site is located within an area identified as having a potential for liquefaction. Liquefaction analysis performed for the site as part of the Preliminary Geotechnical Investigation indicates the alluvial soils below the historic high groundwater could be prone to liquefaction-induced settlement during earthquake ground motion.

Slope Stability and Landslides

The topography at the site is relatively level, and the site is not located within an area identified as having a potential for slope instability. Additionally, the site is not located within an area identified as having a potential for earthquake-induced landslides. No known landslides have occurred near the site, nor is the site in the path of any known or potential landslides.

Lateral Spreading

Lateral spreading is a phenomenon in which surface sediment moves downslope due to liquefaction in a subsurface layer. The potential for liquefaction is anticipated at the project site and, therefore, the potential for lateral spreading is also possible.

Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. According to the Preliminary Geotechnical Investigation, the site is not located within an area of known ground subsidence. Further, no large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

Ground Settlement and/or Collapse

The potential hazard posed by settlement due to seismic ground shaking and liquefaction is considered to be moderate, based on the compressibility of the underlying alluvial soils and the presence of shallow groundwater. Strong ground shaking can cause settlement of alluvial soils underlying the site by allowing sediment particles to become more tightly packed. Alluvial deposits are especially susceptible to this phenomenon. Artificial fills, if not adequately compacted, may also experience seismically induced settlement. Because unconsolidated soils and undocumented fill material are present on site, seismically induced settlement and/or collapse are potential impacts; refer to Appendix E.

Furthermore, the Preliminary Geotechnical Investigation determined the existing alluvium could yield excessive static and differential settlements upon application of foundation loads. There is also a zone of alluvial soils that contains a relatively high percentage of organic deposits that may be subject to settlement.

Expansive Soils

Expansive soils occur when the moisture content in the soil causes swelling or shrinking as a result of cyclic wet/dry weather cycles, installation of irrigation systems, change in landscape plantings, or changes in grading. Swelling and shrinking soils can result in differential movement of structures, including floor slabs and foundations, and site work including hardscape, utilities, and sidewalks. According to the Preliminary Geotechnical Investigation, the upper portion of existing site soils have a medium expansive potential and could be subject to heave and settlement if the soil is subjected to repeated wetting and drying.

Paleontological Resources

Geologic mapping indicates the project area contains Holocene to late Pleistocene (less than 126,000 years ago) young alluvial fan deposits and areas with artificial fill. According to the Paleontological Resources Assessment, the young alluvial fan deposits have low paleontological sensitivity from the surface to a depth of 10 feet, and artificial fill does not have the potential to contain scientifically significant paleontological resources. However, there is a high paleontological sensitivity at the project site in soils below a depth of 10 feet.

5.5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

G-1 Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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

G-2 Result in substantial soil erosion or the loss of topsoil?

G-3 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?

G-4 Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

G-5 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.?

G-6 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No impacts relating to Threshold G-5 were identified, as substantiated in Chapter 8, *Impacts Found Not to Be Significant*. This threshold is not addressed in the following analysis.

5.5.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to geology and soils.

PPP GEO-1 As required by Municipal Code Section 5-1, the project is required to comply with the 2016 (or most recent) Edition of the California Building Code (CBC) to preclude significant adverse effects associated with seismic hazards.

PPP GEO-2 As required by Municipal Code Section 5-1, the project is required to comply with the recommendations outlined in the *Preliminary Geotechnical Investigation, Proposed Multi-Family Residential Development 1683 Sunflower Avenue, Costa Mesa, California*, prepared by Geocon West Inc. on July 24, 2019 (refer to Appendix E).

Refer to Section 5.8, *Hydrology and Water Quality*, for a discussion of PPP HYD-1 through PPP HYD-4.

5.5.4 Environmental Impacts

The following impact analysis addresses thresholds of significance for which there may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.5-1: Development of the proposed project would not directly or indirectly cause potential substantial adverse effects involving seismic-related hazards. [Thresholds G-1(i), (ii), (iii), and (iv)]

Impact Analysis:

Rupture of a Known Fault

Alquist-Priolo Earthquake Fault Zones are regulatory zones established by the CGS around active faults with the potential to cause surface rupture. The zones vary in width, but the average is approximately one-quarter mile wide. The CGS has not published any Alquist-Priolo map containing the project site. The site is not within

a State-designated Alquist-Priolo Earthquake Fault Zone for surface fault rupture hazards (CGS 2018). No impacts would result in this regard.

Ground Shaking

Although the proposed project would introduce new buildings and associated workers, occupants, and visitors, the project itself would not exacerbate ground shaking on-site or in the area. The Southern California region regularly experiences seismic activity, and there are several nearby active faults that could cause moderate to strong ground shaking. Nearby active or known faults include Newport-Inglewood Fault, Whittier Fault, Elsinore Fault, Palos Verdes Fault, and San Andreas Fault. However, future development would be designed and constructed to comply with seismic design requirements detailed under Section 8.16 of the Preliminary Geotechnical Investigation (Appendix E), and the CBC. These design requirements would minimize potential for building collapse and general building damage during seismic ground shaking. Adherence to the seismic design parameters included in the Preliminary Geotechnical Investigation and CBC (see PPP GEO-1 and GEO-2) would be confirmed at plan check and building design review with the City of Costa Mesa. Therefore, compliance with the Preliminary Geotechnical Investigation's recommendations and the CBC would ensure project implementation would not result in direct or indirect substantial adverse effects involving strong seismic ground shaking. Impacts related to seismic ground shaking would be less than significant in this regard.

Seismic-related Ground Failure Including Liquefaction

The State of California Seismic Hazard Zone Map for the Anaheim and Newport Beach Quadrangle and General Plan Safety Element identify the site as having a potential for liquefaction. In addition, liquefaction analysis performed for the site as part of the Preliminary Geotechnical Investigation indicates the alluvial soils below the historic high groundwater could be prone to liquefaction-induced settlement during earthquake ground motion. Future development associated with the project would be required to comply with the seismic design requirements detailed under the CBC (see PPP GEO-1). Furthermore, the Preliminary Geotechnical Investigation includes specific design recommendations that would reduce potential liquefaction settlement impacts during an earthquake event (see PPP GEO-2). Adherence to the seismic design parameters included in the Preliminary Geotechnical Investigation and required by the CBC (see PPP GEO-1 and GEO-2, respectively) would be confirmed at plan check and building design review with the City of Costa Mesa. As a result, impacts concerning seismic-related ground failure, including liquefaction would be less than significant.

Landslides

The topography at the site is relatively level, and the site is not located within an area identified as having a potential for earthquake-induced landslides. No known landslides were observed at or near the site, nor is the site in the path of any known or potential landslides. No impact would occur in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.5-2: Development of the proposed project would not result in substantial soil erosion or loss of topsoil. [Threshold G-2]

Impact Analysis:

Project Construction

Refer to Section 5.8, Impact 5.8-3 for a full discussion of the project's impacts and regulatory requirements pertaining to soil erosion during construction. The following discussion paraphrases these impacts for the purposes of geology and soil.

Site grading and project construction activities would disturb and expose soil and could, thus, accelerate erosion if effective soil erosion measures are not used. Construction projects of one acre or more, including the proposed project, are regulated under the Statewide Construction General Permit. Projects obtain coverage under the Construction General Permit by developing and implementing a SWPPP estimating sediment risk from construction activities to receiving waters and specifying BMPs that would be used by the project to minimize pollution of stormwater (see PPP HYD-1). Categories of BMPs used in SWPPPs are described below in Table 5.5-2, *Construction BMPs*. The project would also be subject to the Orange County Municipal Separate Storm Sewer Systems (MS4) Permit and 2013 Drainage Area Master Plan (DAMP) requirements (see PPP HYD-2 and PPP-HYD-3, respectively). Implementation of BMPs (see PPP HYD-1) would reduce construction impacts on stormwater quality and soil erosion to less than significant levels.

Table 5.5-2 Construction BMPs

Category	Purpose	Examples
Erosion Controls and Wind Erosion Controls	Consists of using project scheduling and planning to reduce soil or vegetation disturbance (particularly during the rainy season), preventing or reducing erosion potential by diverting or controlling drainage, as well as preparing and stabilizing disturbed soil areas.	Scheduling, preservation of existing vegetation, hydraulic mulch, hydroseeding, soil binders, straw mulch, geotextile and mats, wood mulching, earth dikes and drainage swales, velocity dissipation devices, slope drains, streambank stabilization, compost blankets, soil preparation/roughening, and non-vegetative stabilization
Sediment Controls	Filter out soil particles that have been detached and transported in water.	Silt fence, sediment basin, sediment riprap, check dam, fiber rolls, gravel bag berm, street sweeping and vacuuming, sandbag barrier, straw bale barrier, storm drain inlet protection, manufactured linear sediment controls, compost socks and berms, and biofilter bags
Wind Erosion Controls	Consists of applying water or other dust palliatives to prevent or minimize dust nuisance.	Dust control soil binders, chemical dust suppressants, covering stockpiles, permanent vegetation, mulching, watering, temporary gravel construction, synthetic covers, and minimization of disturbed area
Tracking Controls	Minimize the tracking of soil off-site by vehicles.	Stabilized construction roadways and construction entrances/exits, and entrance/outlet tire wash.
Non-storm Water Management Controls	Prohibit discharge of materials other than stormwater, such as discharges from the cleaning, maintenance, and fueling of vehicles and equipment. Conduct various construction operations, including paving, grinding, and concrete curing and finishing, in ways that minimize non-stormwater discharges and contamination of any such discharges.	Water conservation practices, temporary stream crossings, clear water diversions, illicit connection/discharge, potable and irrigation water management, and the proper management of the following operations: paving and grinding, dewatering, vehicle and equipment cleaning, fueling and maintenance, pile driving, concrete curing, concrete finishing, demolition adjacent to water, material over water, and temporary batch plants.

Table 5.5-2 Construction BMPs, continued

Category	Purpose	Examples
Waste Management and Controls (i.e., good housekeeping practices)	Management of materials and wastes to avoid contamination of stormwater.	Stockpile management, spill prevention and control, solid waste management, hazardous waste management, contaminated soil management, concrete waste management, sanitary/septic waste management, liquid waste management, and management of material delivery storage and use.

Source: CASQA 2012.

Project Operation

In compliance with the NPDES, small MS4 post-construction control measures to minimize the potential for erosion and siltation are required. A final Water Quality Management Plan (WQMP) must be submitted and approved by the City prior to the start of construction (see PPP HYD-2). The WQMP includes site design measures, source control measures, and treatment measures that minimize the potential for erosion and siltation. The operational phase of the proposed project would include landscaping and the project-related water quality design features discussed under Impact 5.8-1. In addition, the WQMP must include an operations and maintenance (O&M) plan and maintenance agreement for review and approval by the City to ensure treatment measures installed at the site are maintained for perpetuity. The project would be subject to Municipal Code Section 13-107 to ensure irrigation systems are designed so that overspray, runoff, and low-head drainage onto streets, sidewalks, windows, walls, and fences are minimized. PPP HYD-3 would also ensure automatic systems for watering cycles are scheduled to maximize ground infiltration rates and further minimize runoff.

Implementation of the BMPs outlined in the SWPPP and WQMP and Municipal Code requirements (see PPP HYD-1 through PPP HYD-3) would ensure impacts related to erosion and siltation are less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.5-3: Development of the proposed project would not 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. [Threshold G-3]

Impact Analysis:

Slope Stability and Landslides

As concluded above, the site is not located within an earthquake-induced landslide area, and no evidence of nearby landslides was identified. Furthermore, the topography at the site is relatively level, and the site is not located within an area identified as having a potential for slope instability. Thus, landslide and slope instability are not anticipated, and no impact would result in this regard.

Subsidence

The site is not located within an area of known ground subsidence, and there are no large-scale extractions of groundwater, gas, oil, or geothermal energy occurring or planned at the site or in the general site vicinity. Thus, ground subsidence is not anticipated, and no impact would result in this regard.

Lateral Spreading and Liquefaction

The potential for liquefaction is anticipated at the project site and, therefore, the potential for lateral spreading is also possible. As analyzed under Impact 5.5-1, the grading and foundation recommendations presented in the Preliminary Geotechnical Investigation would minimize the effects of liquefaction settlement (see PPP GEO-2). The project would also be designed and constructed to comply with the CBC (see PPP GEO-1). These design requirements would minimize the impacts from land spreading and liquefaction to less than significant. Adherence to the seismic design parameters of the CBC would be confirmed at plan check and building design review with the City of Costa Mesa. Impacts concerning lateral spreading and liquefaction would be less than significant.

Settlement and/or Collapse

Because unconsolidated soils are present on-site, seismically induced settlement and/or collapse could occur. Furthermore, the existing alluvium could yield excessive static and differential settlements upon application of foundation loads. There is also a zone of alluvial soils that contains a relatively high percentage of organic deposits that may be subject to settlement. Recommendations of the Preliminary Geotechnical Investigation related to seismically induced settlement are discussed under Impact 5.5-1. These recommendations are also applicable to settlement due to foundation loads and organic deposits. The grading and foundation recommendations presented in the Preliminary Geotechnical Investigation (see PPP GEO-2) would minimize the impacts of settlement and/or collapse to less than significant levels. Furthermore, the seismically induced settlement would be reduced by adhering to the seismic design parameters of the CBC (see PPP GEO-1). Impacts concerning settlement and/or collapse would be less than significant .

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.5-4: The proposed project would not create substantial risks to life and property due to expansive soils. [Threshold G-4]

Impact Analysis:

Expansive Soils

Based on the Preliminary Geotechnical Investigation, the near surface soils underlaying the project site are considered to have a "very low" to "medium" expansive potential and are classified as "expansive." Recommendations related to expansive soils are included in the Preliminary Geotechnical Investigation, which include:

- Utilizing flexible connections on all utilities traversing through existing site soils to minimize the damage to underground installations caused by potential soil movements.
- Maintaining the moisture content of untreated subgrade soils at two to three percent above optimum moisture content prior to and at the time of concrete placement. If the subgrade is allowed to dry out, presaturation, and/or moisture conditioning and recompacting will be required.

- Maintaining the moisture content of the slab subgrade and sprinkling as necessary to maintain a moist condition as would be expected in any concrete placement. Furthermore, consideration should be given to doweling slabs into adjacent curbs and foundations to minimize movements and offsets which could lead to a potential tripping hazard. As an alternative, the upper 18 inches of soil could be replaced with granular, non-expansive soils which will reduce the potential for movements and offsets.

With the implementation of the recommendations in the Preliminary Geotechnical Investigation (see PPP GEO-2), impacts due to expansive soils would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.5-5: Development of the proposed project could impact unknown paleontological resources. [Threshold G-6]

Impact Analysis:

Paleontological Resources

As indicated in Section 5.5.1.2, the young alluvial fan deposits have a high paleontological sensitivity below a depth of 10 feet. Maximum excavation for the proposed project could have the potential of reaching 50 feet bgs, with remedial excavation across the project area extending up to an additional three to 12 feet. As such, excavation during development of the project is expected to extend into deposits with high paleontological sensitivity and has the potential to encounter undocumented scientifically significant paleontological resources.

Level of Significance Before Mitigation: Potentially Significant Impact.

5.5.5 Cumulative Impacts

Impact 5.5-6 Development of the proposed project and related projects would not result in cumulatively considerable geology and soils impacts. [Thresholds G-1 through G-4]

Impact Analysis:

For the purposes of geology and soils, cumulative impacts are considered for cumulative projects outlined in Table 4-2, *Related Projects*. The cumulative projects' regional geologic setting and regional seismicity would be similar; however, the local geologic setting, surficial geology, and subsurface soil conditions would vary according to site.

Geology and soils impacts related to the proposed project would be specific to the project site and its users and would not be common or contribute to the impacts (or shared with, in an additive sense) on other sites. Compliance with applicable State and local building regulations would be required of all development in the City. Individual projects would be designed and built in accordance with applicable standards in the CBC and the existing building regulations (see PPP GEO-1 and PPP GEO-2), including pertinent seismic design criteria. Site-specific geologic hazards would be addressed by the engineering geologic report and/or geotechnical report required for each building. These geologic investigations would identify the specific geologic and seismic

characteristics on a site and provide guidelines for engineering design and construction to maintain the structural integrity of proposed structures and infrastructure.

As concluded in Impacts 5.5-1 through 5.5-4 above, compliance with the CBC, Municipal Code, and Preliminary Geotechnical Investigation's recommendations for design and construction would ensure potential impacts to the proposed project concerning exposure to strong seismic ground shaking, secondary seismic hazards (i.e., liquefaction and seismically induced settlement), and unstable/expansive soils would be less than significant. Therefore, the project's incremental effects involving exposure of people and structures to potential substantial adverse effects involving strong seismic ground shaking, seismic-related ground failure, unstable geologic units or soils, or expansive soils would not be cumulatively considerable.

Construction activities associated with cumulative development could also result in soil erosion or loss of topsoil. The degree of impact would depend upon each respective cumulative site's topography and on-site soils' susceptibility to erosion. The potential for erosion would be evaluated on a project-by-project basis through site-specific soil investigations. Construction activities associated with cumulative development would be subject to compliance with the established regulatory requirements (i.e., NPDES and Municipal Code requirements), which would ensure less than significant impacts involving soil erosion or the loss of topsoil (see PPP HYD-1 through PPP HYD-3). As discussed above, implementation of the BMPs outlined in the SWPPP and WQMP, in addition to the project's proposed landscaping and water quality design features, would address the project's anticipated and expected erosion and siltation impacts during the construction and operational phases of the proposed project. Therefore, the project's incremental effects involving erosion and loss of topsoil would not be cumulatively considerable.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.5-7 Development of the proposed project and related cumulative projects could result in cumulatively considerable impacts to paleontological resources. [Threshold G-6]

Impact Analysis:

Cumulative impacts to paleontological resources would occur when the impacts of the proposed project, in conjunction with other projects and development in the City, result in cumulatively considerable impacts to paleontological resources. Like the proposed project, the related cumulative projects identified in Table 4-2 could encounter undiscovered paleontological resources where grading occurs in native soils. As concluded in Impact 5.5-5, previously undiscovered or unknown paleontological resources could potentially be affected during the project's ground-disturbing activities (i.e., grading and excavation). Thus, the proposed project, combined with other related cumulative projects, may cause a cumulatively considerable significant impact to previously undiscovered paleontological resources. Potential cumulatively considerable impacts would result in this regard.

Level of Significance Before Mitigation: Potentially Significant Impact.

5.5.6 Level of Significance Before Mitigation

Upon implementation of existing regulatory requirements and standard conditions of approval, the following impacts would be less than significant: Impacts 5.5-1 through 5.5-4 and 5.5-6.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.5-5:** Development of the proposed project could impact unknown paleontological resources.
- **Impact 5.5-7:** Development of the proposed project and related cumulative projects could result in cumulatively considerable impacts to paleontological resources.

5.5.7 Mitigation Measures

Impact 5.5-5

GEO-1 The project applicant shall retain a qualified paleontologist to develop a Paleontological Resources Impact Mitigation Program (PRIMP) for this project. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology and include the methods that shall be used to protect paleontological resources that may exist within the project area, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of grading. A copy of the PRIMP shall be submitted to the Development Services Department prior to the issuance of a grading permit.

GEO-2 Excavation and grading activities in deposits with high paleontological sensitivity shall be monitored by a qualified paleontological monitor following a PRIMP. No paleontological monitoring is required for activities in artificial fill or the young alluvial fan deposits from the surface to a depth of ten feet bgs. If paleontological resources are encountered during the course of ground disturbance activities, the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find in order to assess its significance. In the event paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected, and a paleontologist shall be contacted to assess the find for significance. If determined to be significant, the fossil shall be collected from the field.

GEO-3 If paleontological resources are determined to be significant by the qualified paleontologist, the collected paleontological resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. At the conclusion of the monitoring program, a report of findings shall be prepared by the qualified paleontologist to document the results of the monitoring program, and a copy of the report shall be provided to the Development Services Department.

Impact 5.5-7

Refer to Mitigation Measures GEO-1 through GEO-3.

5.5.8 Level of Significance After Mitigation

Impact 5.5-5

Because fossils may be present at depths greater than ten feet bgs, and the proposed project could involve excavations as deep as 50 feet bgs, with remedial excavation across the project area extending to depths of three to 12 feet more, paleontological monitoring in these areas would be necessary to reduce impacts involving undocumented paleontological resources during excavation. Mitigation Measures GEO-1 through GEO-3 would require a paleontological monitor to ensure any paleontological finds are properly excavated and preserved and grading is halted to assess the find for significance. With implementation of these mitigation measures, potential impacts associated with paleontological resources would be reduced to less than significant. Therefore, impacts in this regard would be reduced to less than significant levels, and no significant unavoidable adverse impacts relating to paleontological resources would result.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.5-7

Refer to the discussion above. With implementation of Mitigation Measures GEO-1 through GEO-3, project impacts to paleontological resources would be reduced to less than significant levels and would not be cumulatively considerable.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

5. Environmental Analysis
GEOLOGY AND SOILS

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Chapter 5.6 Greenhouse Gas Emissions

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5.6 GREENHOUSE GAS EMISSIONS

This section of the Draft EIR provides a project-specific climate change impact analysis by examining the impacts of the proposed project on the region and nearby sensitive uses. This analysis is based in part on the following source:

- *Air Quality and Greenhouse Gas Impact Analysis* (Air Quality/GHG Report), prepared by LSA and dated January 2020.

A complete copy of this study is provided in this Draft EIR (Volume II, Appendix C, *Air Quality and Greenhouse Gas Impact Analysis*).

5.6.1 Environmental Setting

5.6.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Global Climate Change

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (e.g., precipitation or wind) that last for an extended period of time. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred to "global warming", because it helps convey that there are other changes in addition to rising temperatures.

Climate change refers to any change in measures of weather (e.g., temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of global climate change has been a rise in the average global tropospheric[1] temperature of 0.36 degrees Fahrenheit (°F) per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming may occur, which may induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of the State could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in the State might include a decline in the Sierra Nevada snowpack, erosion of the State's coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Global surface temperatures have risen by 1.33°F plus or minus (±) 0.32°F over the last 100 years. The rate of warming over the last 50 years is almost double that over the last 100 years. The latest projections, based on state-of-the-art climate models, indicate that temperatures in the State are expected to rise 3 to 10.5°F by the

[1] The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

end of the century. The prevailing scientific opinion on climate change is that "most of the warming observed over the last 60 years is attributable to human activities." Increased amounts of carbon dioxide (CO_2) and other greenhouse gases (GHGs) are the primary causes of the human-induced component of warming. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as the greenhouse effect.[2]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The GHGs that are widely seen as the principal contributors to human-induced global climate change are:[3]

- CO_2;
- Methane (CH_4);
- Nitrous oxide (N_2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Sulfur hexafluoride (SF_6).

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect. While GHGs produced by human activities include naturally occurring GHGs (e.g., CO_2, CH_4, and N_2O), some gases (e.g., HFCs, PFCs, and SF_6) are completely new to the atmosphere. Certain other gases (e.g., water vapor) are short-lived in the atmosphere compared to these GHGs that remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is generally excluded from the list of GHGs, because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes (e.g., oceanic evaporation). For the purposes of this air quality study, the term "GHGs" collectively refer to the six gases identified in the bulleted list provided above.

These GHGs vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere. GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. For example, N_2O is approximately 265 to 298 times more potent at contributing to global warming than CO_2. GHG emissions are typically measured in terms of metric tons[4] of CO_2 equivalents ($MTCO_2e$). Table 5.6-1, *Global Warming Potential for Select Greenhouse Gases*, identifies the GWP for the applicable GHGs. The U.S. Environmental Protection

[2] The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse allows heat from sunlight in and reduces the amount of heat that escapes, GHGs such as CO_2, CH_4, and N_2O in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

[3] The GHGs listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this section.

[4] A metric ton is equivalent to 1.1 tons.

Agency (EPA) and California Air Resources Board (CARB) use GWP values from the *2007 Intergovernmental Panel on Climate Change Fourth Assessment Report* (AR4).

Table 5.6-1 Global Warming Potential for Select Greenhouse Gases

Greenhouse Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)[1]
Carbon Dioxide (CO_2)	~100[2]	1 (by definition)
Methane (CH_4)	12	25 – 34
Nitrous Oxide (N_2O)	121	265 – 298

Sources: LSA 2020.
Notes:
1 The 100-year global warming potential estimates are based on the GWPs from the AR4. The Intergovernmental Panel on Climate Change (IPCC) has published the *2013 IPCC Fifth Assessment Report* with updated GWP values; however, the EPA and CARB use GWP values from AR4.
2 CO_2 has a variable atmospheric lifetime and cannot be readily approximated as a single number.

The following discussion summarizes the characteristics of the six primary GHGs:

- **CO_2.** In the atmosphere, carbon generally exists in its oxidized form as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human caused (anthropogenic) sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Carbon sequestration processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of anthropogenic CO_2; consequently, CO_2 is building up in the atmosphere. The concentration of CO_2 in the atmosphere has risen approximately 30 percent since the late 1800s. The transportation sector is the largest source of GHG emissions, representing 41 percent of California's GHG emission inventory in 2016. The largest emissions category within the transportation sector is on-road, which consists of passenger vehicles (e.g., cars, motorcycles, and light-duty trucks) and heavy-duty trucks and buses. Emissions from on-road sources constitute more than 92 percent of the transportation sector total. Industry and electricity generation were California's second- and third-largest categories of GHG emissions, respectively.
- **CH_4.** CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen to produce CO_2. Natural sources of CH_4 include fires, geologic processes, and bacteria that produce CH_4 in a variety of settings (most notably, wetlands). Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (e.g., the burning of coal, oil, and natural gas). As with CO_2, the major removal process of atmospheric CH_4 (a chemical breakdown in the atmosphere) cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.
- **N_2O.** N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is also a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion sources emit N_2O. The quantity of N_2O emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California.

- **HFCs.** HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[5] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry, which is active in the State, has led to greater use of PFCs. As there are no known project-related emissions of these three GHGs, these substances are not discussed further in this analysis.

Emissions Sources and Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on Federal, State, and local GHG emission inventories. However, because GHGs persist for a long time in the atmosphere, accumulate over time, and are generally well mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

United States GHG Emissions

In 2017, the United States emitted approximately 6.5 billion metric tons CO_2 equivalent ($MTCO_2e$). Total United States emissions have decreased by 0.5 percent from 2016 to 2017. This decrease was largely driven by a decrease in emissions from fossil fuel combustion, which was a result of multiple factors, including continued shift from coal to natural gas, and increased use of renewables in the electric power sector, and milder weather that contributed to less overall electricity use. In 2017, nationwide GHG emissions in 2017 were 13 percent below 2005 levels.

State of California GHG Emissions

According to CARB emission inventory estimates, the State emitted 429.4 million metric tons of CO_2e ($MMTCO_2e$) emissions in 2016. This is a decrease of 12 $MMTCO_2e$ from 2015, a 13 percent decrease since peak levels in 2004, and 2 $MMTCO_2e$ below the 1990 level and the State's 2020 GHG target.

The CARB estimates that transportation was the source of approximately 36 percent of the State's GHG emissions in 2016, followed by electricity generation (both in-State and out-of-State) at 20 percent, and industrial sources at 21 percent. The remaining sources of GHG emissions were residential and commercial activities (at 9 percent), agriculture (at 8 percent), high-GWP gases (at 4 percent), and recycling and waste (at 2 percent).

[5] The Montreal Protocol is an international treaty that was signed on January 1, 1989 to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion and are also potent GHGs.

5.6.1.2 REGULATORY BACKGROUND

Federal

Federal Clean Air Act

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the U.S. Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the Federal Clean Air Act (FCAA).

On December 7, 2009, the EPA Administrator signed a final action under the FCAA, finding that six GHGs (i.e., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change.

State

Executive Order S-03-05

Executive Order (EO) S-3-05 was signed on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To combat those concerns, EO S-3-05 established the following GHG emissions reduction targets for the State:

- State GHG emissions reduced to 2000 levels by 2010;
- State GHG emissions reduced to 1990 levels by 2020; and
- State GHG emissions reduced to 80 percent below 1990 levels by 2050.

Assembly Bill 32

California's major initiative for reducing GHG emissions was provided by Assembly Bill (AB) 32, which passed on August 31, 2006. AB 32 aims at reducing GHG emissions to 1990 levels by 2020. The CARB established the level of GHG emissions in 1990 to be approximately 427 million $MTCO_2e$. The annual emissions target of 427 million metric tons (MMT) requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT.

AB 32 also required CARB to prepare a Scoping Plan that outlines the State's main strategies for meeting the 2020 deadline and reducing GHGs that contribute to global climate change. The Scoping Plan includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated annual reduction of 31.7 million $MTCO_2e$);
- Low Carbon Fuel Standard (15 million $MTCO_2e$ per year);
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 million $MTCO_2e$ per year); and

- A renewable portfolio standard for electricity production (21.3 million $MTCO_2e$ per year).

The Scoping Plan identifies 18 emissions reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high-speed rail, green building strategies, recycling, and sustainable forests, water, and air. Implementation of the measures would result in a total annual reduction of 174 million $MTCO_2e$ by 2020.

The CARB approved the first update to the *2008 Scoping Plan* (First Update) on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB's climate change priorities until 2020 and also sets the groundwork to reach long-term goals set forth in EO S-03-05. The First Update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the *2008 Scoping Plan*, the *2017 Scoping Plan* (2017 Scoping Plan), to reflect the 2030 target set by EO B-30-15 and codified by Senate Bill (SB) 32, as described below.

Executive Order B-30-15

EO B-30-15 was passed by the State legislature on April 29, 2015, which added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 32 and Assembly Bill 197

In 2016, the State legislature passed SB 32, and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target (40 percent below 1990 levels by 2030) from EO B-30-15. SB 32 builds on AB 32 and keeps the State on a path toward achieving the 2050 objective of reducing emissions to 80 percent below 1990 levels.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 provides easier public access to air emissions data collected by CARB.

Senate Bill 375

The Sustainable Communities and Climate Protection Act (SB 375), establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. On September 23, 2010, the CARB adopted vehicular GHG emissions reduction targets that was developed in consultation with the metropolitan planning organizations (MPOs). The targets require a six to 15 percent reduction in GHG emissions by 2020 and between 13 to 19 percent reduction by 2035 for each MPO.

SB 375 recognizes the importance of achieving significant GHG emissions reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as the Southern California Association of Government (SCAG), work with local jurisdictions in the development of Sustainable Communities Strategies (SCS). These strategies are designed to integrate development patterns and the transportation network in a way that reduces GHG emissions, while also meeting the housing needs and other regional planning objectives. Pursuant to SB 375, the SCAG reduction targets for per capita vehicular emissions are eight percent by 2020 and 13 percent by 2035.

Assembly Bill 1493

In response to the transportation sector's significant contribution to California's GHG emissions, AB 1493 was enacted on July 22, 2002. AB 1493 requires CARB to set GHG emission standards for passenger vehicles and light duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. These standards (starting in model years 2009 to 2016) were approved by CARB in 2004, but the needed waiver of FCAA Preemption was not granted by the EPA until June 30, 2009. The CARB responded by amending its original regulation, now referred to as Low Emission Vehicle III, to take effect for model years starting 2017 to 2025.

Senate Bill 100

On September 10, 2018, SB 100 was passed, which raises California's Renewables Portfolio Standard (RPS) requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under SB 100, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Senate Bill 350

SB 350, the Clean Energy and Pollution Reduction Act, was signed into law on October 7, 2015. SB 350 updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 to 50 percent; and
- Increase energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard is regulated by the California Public Utilities Commission (CPUC) for the private utilities and by the California Energy Commission (CEC) for municipal utilities. Each utility must submit a procurement plan showing the purchase of clean energy to displace other non-renewable resources.

The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to State energy agencies under existing law. The

addition made by SB 350 requires State energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

Executive Order B-55-18

EO B-55-18, signed on September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other Statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of GHGs from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Building Energy Efficiency Standards

The California Building Energy Efficiency (BEE) Standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission, now the CEC, in June 1977 and most recently revised in 2019 (Title 24, Part 6, of the California Code of Regulations). The BEE Standards require the design of building shells and building components to conserve energy. The BEE Standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 BEE standards, which took effect on January 1, 2017. The 2019 BEE standards were recently adopted on May 9, 2018 and take effect on January 1, 2020.

Green Building Standards

In November 2008, the California Building Standards Commission established the California Green Building Standards (CALGreen), which sets performance standards for residential and non-residential development to reduce environmental impacts and encourage sustainable construction practices. CALGreen addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. CALGreen was most recently updated in 2019 to include new mandatory measures for residential and non-residential uses, which take effect on January 1, 2020.

Local

General Plan

The Land Use and Conservation Elements of the General Plan include the following goals, objectives, and policies related to GHG within the City:

- **Policy LU-4.6:** Incorporate the principles of sustainability into land use planning, infrastructure, and development processes to reduce greenhouse gas emissions consistent with State goals.
- **Policy CON-4.A.2:** Encourage businesses, industries and residents to reduce the impact of direct, indirect, and cumulative impacts of stationary and non-stationary pollution sources.

5.6.1.3 EXISTING CONDITIONS

The 15.23-acre project site is developed with an approximate 345,000-square foot industrial building, an associated parking lot, and ornamental landscaping. The industrial building is occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dekra-Lite Industries, Inc. The existing land uses currently generate GHG emissions from transportation (i.e., vehicle trips associated with the proposed new use), area (e.g., landscaping equipment, consumer products), and energy (i.e., natural gas used for heating and cooking) sources. Table 5.6-2, *Existing Greenhouse Gas Emissions*, details GHG emissions associated with the existing uses. As shown in Table 5.6-2, the existing land uses at the project site emit approximately 2,860 $MTCO2_e$ per year.

Table 5.6-2 Existing Greenhouse Gas Emissions

Source	GHG Emissions ($MTCO_2e$/Yr)
Area	<1
Energy	1,526
Mobile	607
Warehouse Equipment	70
Waste	215
Water	441
Total Existing Emissions	**2,860**

Source: LSA 2020.
Notes: GHG = greenhouse gas; $MTCO_2e$/yr = metric tons of carbon dioxide equivalent per year

5.6.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG-2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The South Coast Air Quality Management District (SCAQMD) has formed a GHG CEQA Significance Threshold Working Group (Working Group) to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. As of the most recent Working Group meeting (Meeting No. 15) held in September 2010, the SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency.

With the tiered approach, the project is compared with the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt under Senate Bill 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with Assembly Bill 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. For all non-industrial projects, the SCAQMD is proposing a screening threshold of 3,000 $MTCO_2eq$ per year. SCAQMD

concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact.

5.6.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to GHGs.

Refer to Section 5.4, *Energy*, for a discussion of PPP EN-1 through PPP EN-5.

5.6.4 Environmental Impacts

5.6.4.1 METHODOLOGY

The analysis below is based on methodologies and information available to the City at the time this analysis was prepared. Estimation of GHG emissions in the future does not account for all changes in technology that may reduce such emissions; therefore, the estimates are based on past performance and represent a scenario that is worse than that which is likely to be encountered (after future energy-efficient technologies have been implemented).

Construction and operation of the proposed project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operation (as opposed to during its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings, and less than 20 percent of energy is consumed during construction.

Overall, the following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions.

- **Construction Activities:** During construction of the project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs (e.g., CO_2, CH_4, and N_2O). Furthermore, CH_4 is emitted during the fueling of heavy equipment.
- **Gas, Electricity, and Water Use:** Natural gas use results in the emission of CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use can result in GHG production if electricity is generated by combusting fossil fuel. Additionally, California's water conveyance system is energy-intensive. Approximately 19 percent of the State's electricity and 30 percent of its non-power plant natural gas is used to store, convey, conserve, and treat water and wastewater.
- **Solid Waste Disposal:** Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 25 times more potent than CO_2. However, landfill CH_4 can also be a source of energy. In addition,

many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.

- **Motor Vehicle Use**: Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in automobile and truck engines.

Appendix C provides detailed methodology and modeling assumptions for the project. GHG emissions from vehicular traffic, energy consumption, water conveyance and treatment, and waste generation were also calculated using the California Emissions Estimator Model Version 2016.3.2 (CalEEMod). Based on SCAQMD guidance, construction emissions were amortized over 30 years (a typical project lifetime) and added to the project's total operational emissions.

5.6.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which there may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.6-1: Implementation of the proposed project could generate a net increase in GHG emissions that would have a significant impact on the environment. [Threshold GHG-1]

Impact Analysis:

Development of the proposed project would contribute to global climate change through direct and indirect GHG emissions from land uses associated with the proposed project. GHG emission estimates presented in Table 5.6-3, *Long-term Operational Greenhouse Gas Emissions*, details the emissions associated with the level of development envisioned for the project at opening year.

Table 5.6-3 Long-term Operational Greenhouse Gas Emissions

Source	Existing Emissions ($MTCO_2e$)	Project-Generated Emissions ($MTCO_2e$)	Net Change ($MTCO_2e$)
Area	<1	18	17
Energy	1,526	3,380	1,854
Mobile	607	7,432	6,825
Waste	215	274	59
Water	441	482	41
Warehouse Equipment	70	—	-70
Amortized Construction[1]		239	239
Total Emissions	**2,860**	**11,825**	**8,965**
		SCAQMD Regional Threshold	**3,000**
		Exceeds Threshold?	**Yes**

Source: LSA 2020.
Notes: GHG = greenhouse gas; $MTCO_2e$/yr = metric tons of carbon dioxide-equivalent per year
1 Construction emissions are amortized over 30 years.

As shown, the proposed project would generate a net increase of 8,965 $MTCO_2e$ per year, which would exceed the SCAQMD's threshold of 3,000 $MTCO_2e$ per year.[6] As such, impacts would be potentially significant in this regard.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.6-2: Implementation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. [Threshold GHG-2]

Impact Analysis:

Applicable plans adopted for the purpose of reducing GHG emissions include SCAG's *2016-2040 Regional Transportation Plan/Sustainable Communities Strategies* (2016 RTP/SCS) and CARB's 2017 Scoping Plan. A consistency analysis with these plans is presented below.

SCAG 2016 RTP/SCS Consistency Analysis

Adopted April 7, 2016, the 2016 RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas served by high quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The project site is located within close proximity to employment opportunities and amenities as well as recreational opportunities associated with the nearby Santa Ana River. The proposed project would include pedestrian, bicycle, and trail improvements to connect the site to adjacent uses. The project would also include vanpool/carpool parking, EV charging stations, rideshare amenities, and bicycle share opportunities. A consistency analysis is presented in Table 5.9-2, *Project Consistency with 2016-2040 RTP/SCS Goals*, in Section 5.9, *Land Use and Planning*. As detailed in Table 5.9-2, the proposed project is consistent with the 2016 RTP/SCS.

2017 Scoping Plan Consistency Analysis

The 2017 Scoping Plan outlines the main strategies for meeting the State's emission reduction targets and reducing GHGs that contribute to global climate change. Pursuant to AB 32, the Scoping Plan must "identify and make recommendations on direct emission reduction measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives" in order to achieve the 2020 goal, and achieve "the maximum technologically feasible and cost-effective greenhouse gas emission reductions" by 2020 and maintain and continue reductions beyond 2020.

The companion bill to SB 32, AB 197, provides additional direction to CARB on the following areas related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197, meant to provide easier public access to air emissions data that are collected by CARB, was posted in December 2016. The measures

[6] During the Notice of Preparation (NOP) scoping process, a commenter requested that the City use a significance threshold of zero for GHG impacts. Global warming is an inherently cumulative issue and there is no basis in fact to assert a zero threshold of significance. Nevertheless, if the City were to use a threshold of significance of zero, it would result in the same conclusion as identified in Table 5.6-2, an exceedance of the significance threshold.

applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. PPP EN-1 would require the project to comply with the 2019 California BEE standards and the 2019 CALGreen requirements. PPP EN-5 would implement EV charging stations and preferential parking for low emitting, fuel efficient vehicles on-site. Therefore, with compliance with regulatory requirements, the proposed project would not conflict with energy efficient measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. PPP EN-2 would require the project to comply with CALGreen Code Tier 1 and 2 measures and would include low-flow plumbing fixtures, drought-tolerant landscaping, and other features that would reduce water demand. Further, the project would be required to reduce water usage by complying with the City's Model Water Efficient Landscape Ordinance requirements and installing EPA-certified WaterSense plumbing fixtures (see PPP EN-3). Therefore, with compliance with regulatory requirements, the proposed project would not conflict with any water conservation and efficiency measures.

The goal of transportation and motor vehicle GHG emissions reduction measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. However, the project would promote initiatives to reduce vehicle trips and vehicle miles traveled as a mixed-use development near employment centers and amenities, and would encourage the use of multimodal transportation. Therefore, the proposed project would not conflict with transportation and motor vehicle measures.

A summary of the proposed project's consistency with the 2017 Scoping Plan is provided in Table 5.6-4, *Project Consistency with Applicable 2017 Scoping Plan Appendix B Measures*.

Table 5.6-4 Project Consistency with Applicable 2017 Scoping Plan Appendix B Measures

2017 Scoping Plan Appendix B Measures	Project Consistency
Dedicate on-site parking for shared vehicles.	***Consistent***. The proposed project would include preferential parking for low-emitting, fuel-efficient, and carpool/car share/van vehicles in all parking areas and electric vehicle charging stations at non-residential and residential buildings (PPP EN-5).
Require cool roofs and "cool parking" that promotes cool surface treatment for new parking facilities as well as existing surface lots undergoing resurfacing.	***Consistent***. The proposed project would incorporate cool roof materials and meet the CALGreen Tier 1 and 2 measures for roof slope (PPP EN-1).
Require solar-ready roofs.	***Consistent***. The proposed project would include provisions for photovoltaic solar panel on roofs, as specified in Title 24 Part 6 and the CALGreen Tier 1 and 2 measures (PPP EN-1).
Require low-water landscaping in new developments (see CALGreen Divisions 4.3 and 5.3 and the Model Water Efficient Landscape Ordinance [MWELO], which is referenced in CALGreen). Require water efficient landscape maintenance to conserve water and reduce landscape waste.	***Consistent***. The proposed project would include new low-water landscaping and trees throughout the project site. Additionally, weather-based smart irrigation controllers would be installed (PPP EN-2 and PPP EN-3).
Encourage new construction, including municipal building construction, to achieve third-party green building certifications, such as the GreenPoint Rated program, LEED rating system, or Living Building Challenge.	***Consistent***. The proposed project would be constructed to meet CALGreen Tier 1 and 2 measures (PPP EN-1).
Expand urban forestry and green infrastructure in new land development.	***Consistent***. The proposed project would include new low-water landscaping and trees throughout the project site. Additionally, weather-based smart irrigation controllers would be installed (PPP EN-2).
Provide electric outlets to promote the use of electric landscape maintenance equipment to the extent feasible on parks and public/quasi-public lands.	***Consistent***. The proposed project would provide outdoor electric outlets to promote the use of electric landscaping equipment.
Require the landscaping design for parking lots to utilize tree cover and compost/mulch.	***Consistent***. The proposed project would include new low-water landscaping and trees throughout the project site. Additionally, weather-based smart irrigation controllers would be installed (PPP EN-2).

Source: LSA 2020.

As detailed, the proposed project would not conflict with applicable Statewide action measures. Therefore, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.6.5 Cumulative Impacts

Impact 5.6-3: Implementation of the proposed project could generate a net increase in GHG emissions that would result in a cumulatively significant impact on the environment. [Threshold GHG-1]

Impact Analysis:

Project-related GHG emissions are not confined to a particular air basin; instead, GHG emissions are dispersed worldwide. No single project is large enough to result in a measurable increase in global concentrations of GHG emissions. Therefore, impacts identified under Impact 5.6-1 are not project-specific impacts to global

climate change, but the proposed project's contribution to this cumulative impact. As discussed above, the proposed project's GHG emissions would exceed the SCAQMD significance threshold of 3,000 $MTCO_2e$ per year; refer to Table 5.6-3. Therefore, the proposed project's GHG emissions and contribution to global climate change impacts are considered cumulatively considerable.

Level of Significance After Mitigation: Potentially Significant.

Impact 5.6-4: Implementation of the proposed project, in combination with related projects, would not cumulatively conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. [Threshold GHG-2]

Impact Analysis:

As stated, GHG impacts are recognized as exclusively cumulative impacts, and there are no non-cumulative GHG emission impacts from a climate change perspective. As such, significant direct impacts associated with the project also serve as the project's cumulative impact. Impact 5.6-2 concludes that the project would be consistent with the applicable measures in the 2016 RTP/SCS and 2017 Scoping Plan. Thus, the project would not cumulatively contribute to GHG impacts and impacts in this regard would be less than significant.

Level of Significance After Mitigation: Less Than Significant Impact.

5.6.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be less than significant: Impacts 5.6-2 and 5.6-4.

However, without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.6-1** Implementation of the proposed project could generate a net increase in GHG emissions that would have a significant impact on the environment.
- **Impact 5.6-3** Implementation of the proposed project could generate a net increase in GHG emissions that would result in a cumulatively significant impact on the environment.

5.6.7 Mitigation Measures

Impact 5.6-1

GHG-1 Prior to issuance of a building permit, the City's Planning Division shall verify that the applicant has designed the proposed parking areas to provide preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles. At a minimum, the number of EV charging stations shall be equal to Tier 2 Nonresidential Voluntary Measures of the California Green Building Standards Code Section A5.106.5.1.2.

GHG-2 Prior to issuance of a building permit, the City's Building Division shall verify that the applicant has designed the proposed parking areas to provide electric vehicle (EV) charging

stations. At a minimum, the number of EV charging stations shall be equal to the Tier 2 Nonresidential Voluntary Measures of the California Green Building Standards Code Section A5.106.5.3.2.

Impact 5.6-3

Refer to Mitigation Measures GHG-1 and GHG-2.

5.6.8 Level of Significance After Mitigation

Impact 5.6-1

Table 5.6-5, *Long-term Operational Greenhouse Gas Emission With Mitigation*, details project-generated GHG emissions upon implementation of Mitigation Measures GHG-1 and GHG-2. As shown, emissions would continue to exceed the SCAQMD significance threshold of 3,000 $MTCO_2e$ per year. Therefore, GHG emissions impacts would be significant and unavoidable.

Table 5.6-5 Long-term Operational Greenhouse Gas Emissions With Mitigation

Source	Existing Emissions ($MTCO_2e$)	Project-Generated Emissions With Mitigation ($MTCO_2e$)	Net Difference ($MTCO_2e$)
Area	<1	18	17
Energy	1,526	3,380	1,854
Mobile	607	5,179	4,572
Waste	215	274	59
Water	441	482	41
Warehouse Equipment	70	0	-70
Amortized Construction[1]	--	239	239
Total Emissions	**2,860**	**9,572**	**6,712**
		SCAQMD Regional Threshold	3,000
		Exceeds Threshold?	**Yes**

Source: LSA 2020.
Notes: GHG = greenhouse gas; $MTCO_2e$/yr = metric tons of carbon dioxide equivalent per year
1 Construction emissions are amortized over 30 years.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

Impact 5.6-3

As analyzed above, operational GHG emissions associated with the proposed project would continue to exceed the SCAQMD significance threshold with implementation of Mitigation Measures GHG-1 and GHG-2. Therefore, the project's cumulative contribution would be significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

Chapter 5.7 Hazards and Hazardous Materials

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5.7 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential impacts of the proposed project on human health and the environment due to exposure to hazardous materials or conditions associated with the project site, project construction, and project operations. The analysis in this section is based, in part, upon the following sources:

- *Phase I Environmental Site Assessment Report, 1683 Sunflower Avenue, Costa Mesa, California* (Phase I ESA), Geocon Incorporated, March 12, 2019.
- *Asbestos Survey for One Building Located at 1683 Sunflower Avenue, Costa Mesa, California* (Asbestos Survey), Panacea, Inc., September 9, 2013.

Complete copies of these studies are included in the technical appendices of this Draft EIR (Volume II, Appendix G, *Phase I Environmental Site Assessment Report* and Appendix H, *Asbestos Survey*).

5.7.1 Environmental Setting

5.7.1.1 REGULATORY BACKGROUND

Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

Federal

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides the United States Environmental Protection Agency (EPA) with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint (LBP). Title IV of the TSCA directs EPA to regulate LBP hazards.

TSCA Sections 402 and 404 require those engaged in lead abatements, risk assessments, and inspections in homes or child-occupied facilities (such as day care centers and kindergartens) built prior to 1978 be trained and certified in specific practices to ensure accuracy and safety. TSCA Section 403, *Residential Hazard Standards for Lead in Paint, Dust and Soil*, sets standards for dangerous levels of lead in paint, household dust, and residential soil.

Residential Lead-Based Paint Hazard Reduction Act

The purposes of the Residential Lead-Based Paint Hazard Reduction Act are to:

- Develop a national strategy to build the infrastructure necessary to eliminate LBP hazards in all housing as expeditiously as possible;
- Reorient the national approach to the presence of LBP in housing to implement, on a priority basis, a broad program to evaluate and reduce LBP hazards in the Nation's housing stock;

- Encourage effective action to prevent childhood lead poisoning by establishing a workable framework for LBP hazard evaluation and reduction and by ending the current confusion over reasonable standards of care;
- Ensure the existence of LBP hazards is taken into account in the development of Federal, State, and local housing policies and in the sale, rental, and renovation of homes and apartments;
- Mobilize national resources expeditiously, through a partnership among all levels of government and the private sector, to develop the most promising, cost-effective methods for evaluating and reducing LBP hazards;
- Reduce the threat of childhood lead poisoning in housing owned, assisted, or transferred by the Federal Government; and
- Educate the public concerning the hazards and sources of LBP poisoning and steps to reduce and eliminate such hazards.

Comprehensive Environmental Response, Compensation and Liability Act

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) is a law developed to protect the water, air, and soil resources from the risks created by past chemical disposal practices. This law is also referred to as the Superfund Act and regulates sites on the National Priority List (also known as Superfund sites). This law (U.S. Code Title 42, Chapter 103) provides broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified.

Emergency Planning and Community Right-To-Know Act

In 1986, Congress passed the Superfund Amendments and Reauthorization Act (SARA). Title III of this regulation is called the "Emergency Planning and Community Right-to-Know Act of 1986" (EPCRA). EPCRA requires the establishment of State commissions, planning districts, and local committees to facilitate the preparation and implementation of emergency plans. Under its requirements, local emergency planning committees (LEPCs) are responsible for developing a plan for preparing for and responding to a chemical emergency, including:

- An identification of local facilities and transportation routes where hazardous materials are present.
- The procedures for immediate response in case of an accident (this must include a community-wide evacuation plan).
- A plan for notifying the community that an incident has occurred.
- The names of response coordinators at local facilities.
- A plan for conducting drills to test the plan.

The emergency plan is reviewed by the State Emergency Response Commission and publicized throughout the community. The LEPC is required to review, test, and update the plan each year. The Orange County Health Care Agency (OCHCA) Environmental Health Division is responsible for coordinating hazardous material and

disaster preparedness planning and appropriate response efforts with city departments and local and State agencies. The goal is to improve public and private sector readiness and to mitigate local impacts resulting from natural or man-made emergencies.

Another purpose of EPCRA is to inform communities and citizens of chemical hazards in their areas. Sections 311 and 312 of EPCRA require businesses to report to State and local agencies the location and quantities of chemicals stored onsite. Under Section 313 of EPCRA, manufacturers are required to report chemical releases for more than 600 designated chemicals. In addition to chemical releases, regulated facilities are also required to report off-site transfers of waste for treatment or disposal at separate facilities, pollution prevention measures, and chemical recycling activities. The EPA maintains the Toxic Release Inventory database that documents the information regulated facilities are required to report annually.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) is the principal Federal law that regulates generation, management, and transportation of hazardous waste. Hazardous waste management includes the treatment, storage, or disposal of hazardous waste.

Clean Water Act

The Clean Water Act (CWA) is a 1977 amendment to the Federal Water Pollution Control Act of 1972. The CWA is the principal statute governing water quality. It establishes the basic structure for regulating discharges of pollutants into the Waters of the United States[1] and gives the EPA the authority to implement pollution control programs, such as setting wastewater standards for the industry. Under the CWA, the EPA has developed national water quality criteria recommendations for pollutants in surface waters. The statute's goal is to end all discharges entirely and to restore, maintain, and preserve the integrity of the Nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the Nation's waters. The CWA sets water quality standards for all contaminants in surface waters and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges, requires States to establish site-specific water quality standards for navigable bodies of water, and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA also funded the construction of sewage treatment plants and recognized the need for planning to address nonpoint sources of pollution.

Several sections of the CWA are discussed in Section 5.8, *Hydrology and Water Quality*, of this Draft EIR.

Hazardous Waste Operations and Emergency Response Standards

The Occupational Safety and Health Administration (OSHA) issued the Hazardous Waste Operations and Emergency Response (HAZWOPER) standards, 29 Code of Federal Regulations (CFR) 1910.120 and 29 CFR

[1] Waters of the United States generally include surface waters—lakes, rivers streams, bays, the ocean, dry streambeds, wetlands, and storm sewers that are tributary to any surface water body.

1926.65, to protect workers and enable them to handle hazardous substances safely and effectively. The latter standard is for the construction industry and is identical to 29 CFR 1910.120.

The HAZWOPER standard covers employers performing the following general categories of work operations:

- Hazardous waste site cleanup operations;
- Operations involving hazardous waste that are conducted at treatment, storage, and disposal (TSD) facilities; and
- Emergency response operations involving hazardous substance releases.

The HAZWOPER standards provide information and training criteria to employers, emergency response workers, and other workers potentially exposed to hazardous substances to improve workplace safety and health and reduce workplace injuries and illnesses from exposures to hazardous substances. It is critical that employers and their workers understand the scope and application of HAZWOPER and can determine which sections apply to their specific work operations.

Title 40 Code of Federal Regulations, Section 61 Subpart M

Title 40 CFR Section 61 Subpart M, *National Emissions Standards for Asbestos*, sets forth emissions standards for asbestos from demolition and renovation activities, and for waste disposal from such activities.

Title 40 Code of Federal Regulations, Section 761.61

Title 40 CFR Section 761.61, *PCB Remediation Waste*, provides cleanup and disposal options for PCB remediation waste. Any person cleaning up and disposing of PCBs managed under Title 40 CFR Section 761.61 is required to do so based on the concentration at which the PCBs are found. This section does not prohibit any person from implementing temporary emergency measures to prevent, treat, or contain further releases or mitigate migration to the environment of PCBs or PCB remediation waste.

Title 29 Code of Federal Regulations, Section 1926.62

Title 29 CFR Section 1926.62, *Lead*, sets standards for occupational health and environmental controls for lead exposure in construction, regardless of the lead content of paints and other materials. The standards include requirements addressing exposure assessment, methods of compliance, respiratory protection, protective clothing and equipment, hygiene facilities and practices, medical surveillance, medical removal protection, employee information and training, signs, recordkeeping, and observation and monitoring.

U.S. Environmental Protection Agency's Lead Renovation, Repair and Painting Program Rules

EPA's *2008 Lead-Based Paint Renovation, Repair and Painting* (RRP) *Rule* (as amended in 2010 and 2011) aims to protect the public from LBP hazards associated with renovation, repair, and painting activities. These activities can create hazardous lead dust when surfaces with lead paint, even from many decades ago, are disturbed. The rule requires workers to be certified and trained in the use of lead-safe work practices, and requires renovation, repair, and painting professionals to be EPA-certified. These requirements became fully effective April 22, 2010.

Federal Air Regulations, Part 77

The Federal Aviation Administration (FAA) is charged with the review of construction activities that occur in the vicinity of airports. Their role in reviewing these activities is to ensure new structures do not result in hazards to navigation and thus derogate the safety of the National Airspace System. The regulations contained in Federal Aviation Regulation (FAR) Part 77 are designed to ensure no hazards are allowed to exist that would endanger the public. Proposed structures are also evaluated against Terminal En Route Procedures (TERPS), which ensure a structure does not adversely impact flight procedures. The construction of tall structures, such as buildings, construction cranes, and cell towers, in the vicinity of an airport can be hazardous to the navigation of airplanes. The FAA, through FAR Part 77, established a method of identifying surfaces that should be free from penetration by obstructions in order to maintain sufficient airspace around airports. FAR Part 77, in effect, identifies the maximum height at which a structure would be considered an obstacle at any given point around an airport. The extent of the off-airport coverage needing to be evaluated for tall-structure impacts can extend miles from an airport facility. In addition, FAR Part 77 establishes standards for determining whether objects constructed near airports would be considered obstructions in navigable airspace, sets forth notice requirements of certain types of proposed construction or alterations, and provides for aeronautical studies to determine the potential impacts of a structure on the flight of aircraft through navigable airspace.

State

Hazardous Materials Release Notification

Many State statutes require emergency notification of a hazardous chemical release. These include, but are not limited to:

- California Health and Safety Codes Sections 25270.8 and 25507;
- Vehicle Code Section 23112.5;
- Public Utilities Code Section 7673 (PUC General Orders #22-B, 161);
- Government Code Sections 51018, 8670.25.5(a);
- Water Codes Sections 13271 and 13272; and
- California Labor Code Section 6409.1(b)10.

Requirements for immediate notification of all significant spills or threatened releases cover owners, operators, persons in charge, and employers. Notification is required regarding significant releases from facilities, vehicles, vessels, pipelines, and railroads. In addition, all releases that result in injuries or harmful exposure to workers must be immediately reported to the California Occupational Safety and Health Administration (Cal OSHA) pursuant to the California Labor Code Section 6409.1(b).

Department of Toxic Substances Control

The responsibility for implementation of RCRA was given to California EPA's Department of Toxic Substances Control (DTSC) in August 1992. The DTSC is also responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. Although similar to RCRA, the California Hazardous Waste Control Law and its associated regulations define hazardous waste

more broadly and regulate a larger number of chemicals. Hazardous wastes regulated by California, but not by EPA, are called "non-RCRA hazardous wastes."

Hazardous Materials Business Plans

Both the Federal government (through the CFR) and the State of California (through the California Health and Safety Code) require all businesses that handle more than a specified amount, or "reporting quantity," of hazardous or extremely hazardous materials to submit a hazardous materials business plan to its Certified Unified Program Agency (CUPA). According to OCHCA guidelines, the preparation, submittal, and implementation of a business plan is required by any business that handles a hazardous material or a mixture containing a hazardous material in specified quantities.

Business plans must include an inventory of the hazardous materials at the facility. Businesses must update the whole plan at least every three years and the chemical portion every year. Also, business plans must include emergency response plans and procedures to be used in the event of a significant or threatened significant release of a hazardous material. These plans need to identify the procedures for immediate notification of all appropriate agencies and personnel, identification of local emergency medical assistance appropriate for potential accident scenarios, contact information for all company emergency coordinators, a listing and location of emergency equipment at the business, an evacuation plan, and a training program for business personnel.

OCHCA currently reviews submitted business plans and updates. Businesses that handle hazardous materials are required by law to provide an immediate verbal report of any release or threatened release of hazardous materials if there is a reasonable belief the release or threatened release poses a significant present or potential hazard to human health and safety, property, or the environment. OCHCA is also charged with the responsibility of conducting compliance inspections of regulated facilities in Orange County.

California Accidental Release Prevention Program

The California Accidental Release Prevention Program (CalARP) became effective on January 1, 1997, in response to Senate Bill (SB) 1889 (Chapter 715, Statutes of 1996). CalARP aims to be proactive and therefore requires businesses to prepare risk management plans, which are detailed engineering analyses of the potential accident factors present at a business and the mitigation measures that can be implemented to reduce this accident potential. This requirement is coupled with the requirements for preparation of hazardous materials business plans under the Unified Program, implemented by the CUPA.

California Code of Regulations, Title 22, Division 4.5

Title 22, Division 4.5 of the California Code of Regulations (CCR) sets forth the requirements for hazardous-waste generators; transporters; and owners or operators of treatment, storage, or disposal facilities. These regulations include the requirements for packaging, storing, labeling, reporting, and general management of hazardous waste prior to shipment. In addition, the regulations identify standards applicable to transporters of hazardous waste. These regulations specify the requirements for transporting shipments of hazardous waste, including manifesting, vehicle registration, and emergency accidental discharges during transportation.

California Fire Code

The 2013 California Fire Code (CCR Title 24 Part 9) sets requirements pertaining to fire safety and life safety, including for building materials and methods, fire protection systems in buildings, emergency access to buildings, and handling and storage of hazardous materials.

California Building Code

Per CCR Title 24, Part 2, Section 907.2.11.2, smoke alarms shall be installed and maintained on the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms, in each room used for sleeping purposes, and in each story within a dwelling unit. The smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. Smoke alarms shall receive their primary power from the building wiring and shall be equipped with a battery backup.

California Health and Safety Code, Sections 17920.10 and 105255

California Health and Safety Code Sections 17920.10 and 105255 require lead hazards to be contained during demolition activities. Lead hazards refer to deteriorated LBP, lead-contaminated dust, lead-contaminated soil, or disturbing lead-based paint without containment.

California Code of Regulations: Worker Safety Standards: Asbestos and Lead

CCR Title 8 Section 1529 sets forth worker safety standards for lead exposure for employees conducting demolition, construction, and renovation work, including painting and decorating.

CCR Title 8 Section 1532.1 sets forth worker safety standards for activities involving construction, demolition, renovation, and maintenance.

Regional

South Coast Air Quality Management District

South Coast Air Quality Management District (SCAQMD) Rule 1403 governs the demolition of buildings containing asbestos materials. Rule 1403 specifies work practices with the goal of minimizing asbestos emissions during building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing material (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and cleanup procedures, and storage and disposal requirements for ACM waste.

Local

City of Costa Mesa General Plan

The Safety Element of the *City of Costa Mesa General Plan* (General Plan) includes the following goals, objectives, and policies to protect cultural resources within the City:

- **Goal S-2**: High Level of Police and Fire Services and Emergency Preparedness

- **Objective S-2A:** Plan, promote, and demonstrate a readiness to respond and reduce threats to life and property through traditional and innovative emergency services and programs.

  - **Policy S-2.13:** Continue to consult with the County of Orange in the implementation of the Orange County Hazardous Waste Management Plan.

  - **Policy S-2.14:** Ensure that appropriate in-depth environmental analysis is conducted for any proposed hazardous waste materials treatment, transfer, and/or disposal facility.

  - **Policy S-2.15:** Continue to consult with the County of Orange to identify and inventory all users of hazardous materials and all hazardous waste generators, and prepare clean-up action plans for identified disposal sites.

  - **Policy S-2.16:** Require the safe production, transportation, handling, use, and disposal of hazardous materials that may cause air, water, or soil contamination.

  - **Policy S-2.17:** Encourage best practices in hazardous waste management, and ensure consistency with City, County, and Federal guidelines, standards, and requirements.

  - **Policy S-2.18:** Consult with Federal, State, and local agencies and law enforcement to prevent the illegal transportation and disposal of hazardous waste

City of Costa Mesa Fire Prevention Program

The City of Costa Mesa Fire Prevention Program develops and enforces local fire, life safety, property, and environmental protection standards; enforces State-adopted fire and life safety codes; reviews building construction plans; conducts building construction and business inspections; investigates citizen complaints; manages the City's hazardous materials disclosure program; provides training to department personnel in regard to fire and life safety codes; and assists professional trades with technical fire code requirements and department public education efforts (Costa Mesa 2019c).

5.7.1.2 EXISTING CONDITIONS

Current Use of Property

The site is developed with an approximate 345,000 square foot building, which is located in the center of and covers most of the site. The building is currently occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dektra-Lite Industries, Inc. The remainder of the site consists of landscaped areas and surface parking lots.

Based on the Phase I ESA, Robinson Pharma occupies the western portion and majority of the site. The interior of the warehouse portion is used for storing various products used in the manufacturing of vitamins and supplements. No processing or manufacturing of these products is conducted on-site. The shipping and receiving of these products occur at the loading docks located on the north sides of the building. A parts room is located on the northeastern portion of the Robinson Pharma warehouse where employees construct metal

parts to be shipped off-site for use in vitamin manufacturing. Several metal fabricating (cutting and drilling) machines were observed in this area, and operations involve the use of coolants, lubricants, and hydraulic oils. These materials were contained in properly labeled and sealed 55-gallon drums and retail-sized 5-gallon buckets, with no evidence of leaks or spills.

The space occupied by South Coast Baking on the eastern portion of the warehouse building consists of miscellaneous stored items associated with typical baking supply and merchandise. Loading docks were observed on the northern side of the warehouse. No hazardous materials or petroleum products were observed in this area.

The space occupied by Dektra Lite, Inc., on the easternmost portion of the warehouse building consists of miscellaneous stored items associated with large-scale entertainment and corporate party-related events. Loading docks were observed on the northern side of the warehouse. No hazardous materials or petroleum products were observed in this area.

Historic Use of Property

The site was used for agriculture purposes from at least the 1930s until the 1970s. The existing building was constructed in 1975 by Nissan Motor Corporation for use as storage and distribution of car parts, training for car mechanics, and administrative purposes. The original building was 230,000 square feet. An addition to the building was constructed in 1987. Nissan Motor Corporation was the sole occupant of the site from approximately 1975 to 2014.

Regulatory Database Search

The Phase I ESA included a search of Federal, State, and local databases regarding the use, storage, disposal, or release of hazardous substances and/or petroleum products for the site and area within one mile of the site. Nissan Motor Corporation is listed on the HAZNET database. The listing indicates from 1996 to 2006 Nissan Motor Corporation removed approximately 10.69 tons of a combination of oil-containing waste, organic solid waste, and aqueous waste solution with organic residues from the site and disposed of it at a landfill. No releases or violations are noted with respect to the HAZNET listing, and the listing does not suggest conditions would be likely to have caused a recognized environmental condition (REC) at the site. Other properties and facilities within a 0.25-mile radius of the site are listed on various non-release-related databases and, therefore, are not anticipated to have caused a REC at the site.

Asbestos-Containing Materials

The Asbestos Survey (included in Appendix H) concluded there is a high likelihood that ACMs are present in concentrations greater than one percent (friable) in the on-site building currently on the project site.

Lead Based Paints

Based on the construction date of the building on-site, it is possible LBP was used historically on-site. Personnel were not aware of the presence of any LBP on structures at the facility, and the site reconnaissance performed for the Phase I ESA observed the paint to be in good condition.

Polychlorinated Biphenyls

As discussed by DTSC's NOP comment letter (Appendix B, *NOP Comments*), the existing building has the potential to contain PCBs in building materials. PCBs are a group of toxic chemicals used for a variety of purposes including electrical applications, carbonless copy paper, adhesives, hydraulic fluids, and caulking compounds. PCBs do not breakdown easily and are listed as cancer-causing agents by the California Office of Environmental Health Hazard Assessment.

Airport-Related Hazards

The proposed project is located approximately 3.5 miles northwest of John Wayne Airport and is outside the airport safety impact zone (OCALUC 2008). However, based on a letter received from the Airport Land Use Commission for Orange County (ALUC), dated June 20, 2019, the project site is located within the *Airport Environs Land Use Plan for John Wayne Airport* (AELUP) planning area and is subject to FAR Part 77 Notification Area for John Wayne Airport.

Emergency Response Planning

The Costa Mesa Disaster Plan serves as the community's Emergency Operations Plan (EOP), which provides guidance during emergency situations and natural disasters. The plan addresses potential large-scale disasters that require a coordinated and immediate response.

The EOP identifies key personnel and agencies in the Costa Mesa Emergency Management Organization that are organized to protect life and property in the community. The EOP also identifies sources of outside support that may be provided by State and Federal agencies, the private sector, and through mutual aid by other jurisdictions. In addition, the EOP specifies emergency operations to be implemented during an emergency, assigns responsibilities, and provides an explanation of how the plan is to be administered. These activities involve a number of City departments and facilities, including the Police Department, Fire Department, public health officials, and care and shelter operations.

The City's emergency evacuation routes are shown in Figure S-9, *Public Safety Facilities and Emergency Evacuation Routes*, of the General Plan's Safety Element. The Police Chief coordinates all emergency evacuation activities and issues evacuation orders based on information gathered from emergency experts. Evacuation operations are also managed by law enforcement agencies, highway/road/street departments, and public and private transportation providers (Costa Mesa 2019d).

Schools

The nearest schools to the project site are California Elementary School and Charles W. Tewinkle Middle School, located approximately 0.20 mile southeast of the project site at 3232 and 3224 California Street, respectively.

Wildland Fires

The project site and surrounding land are built out with urban land uses; no wildland vegetation that could fuel wildfires is present. The nearest Very High Fire Hazard Severity Zone to the project site mapped by the California Department of Forestry and Fire Protection is about 6 miles to the southeast (CAL FIRE 2011).

5.7.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

HAZ-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

HAZ-2 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.

HAZ-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school.

HAZ-4 Be located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

HAZ-5 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard or excessive noise for people residing or working in the project area.

HAZ-6 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

HAZ-7 Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Impacts relating to thresholds HAZ-3, HAZ-4, and HAZ-7 were determined to be less than significant or no impact, as substantiated in Chapter 8, *Impacts Found Not to Be Significant*. These thresholds are not addressed in the following analysis.

5.7.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to hazards and hazardous materials.

PPP HAZ-1 Any project-related hazardous materials and hazardous wastes will be transported to and/or from the project site in compliance with any applicable State and Federal requirements,

including the U.S. Department of Transportation regulations listed in the Code of Federal Regulations (CFR) (Title 49, Hazardous Materials Transportation Act); California Department of Transportation standards; and the California Occupational Safety and Health Administration (Cal/OSHA) standards.

PPP HAZ-2 Any project-related hazardous waste generation, transportation, treatment, storage, and disposal will be conducted in compliance with Subtitle C of the Resource Conservation and Recovery Act (RCRA) (Code of Federal Regulations [CFR] Title 40, Part 263), including the management of nonhazardous solid wastes. The proposed project will be designed and constructed in accordance with the regulations of the Orange County Environmental Health Department, which serves as the designated Certified Unified Program Agency (CUPA) and implements State and Federal regulations for the following programs: (1) Hazardous Waste Generator Program, (2) Hazardous Materials Release Response Plans and Inventory Program, (3) California Accidental Release Prevention, (4) Aboveground Storage Tank Program, and (5) Underground Storage Tank Program.

PPP HAZ-3 A comprehensive asbestos and lead-based paint (LBP) survey shall be conducted at the project site. Any project-related demolition activities that have the potential to expose construction workers and/or the public to asbestos-containing material (ACM) or LBP will be conducted in accordance with applicable regulations, including, but not limited to:

- South Coast Air Quality Management District's (SCAQMD's) Rule 1403
- California Health and Safety Code (Section 39650 et seq.)
- The California Occupational Safety and Health Administration (Cal/OSHA) Administration Regulations (California Code of Regulations [CCR] Title 8, Section 1529 [Asbestos] and Section 1532.1 [Lead])
- Code of Federal Regulations (CFR) (Title 40, Part 61 [asbestos]; Title 40, Part 763 [asbestos]; Title 40, Part 745 [lead]; and Title 29, Part 1926 [asbestos and lead])
- U.S. Environmental Protection Agency's (EPA's) Lead Renovation, Repair and Painting Program Rules and Residential Lead-Based Paint Disclosure Program
- Sections 402, 404, and 403, as well as Title IV of the Toxic Substances Control Act (TSCA)

PPP HAZ-4 The removal of other hazardous materials, such as polychlorinated biphenyls (PCBs), mercury-containing light ballast, and mold, will be completed in accordance with applicable regulations pursuant to 40 Code of Federal Regulations (CFR) 761 (PCBs), 40 CFR 273 (mercury-containing light ballast), and 29 CFR 1926 (molds) by workers with HAZWOPER training, as outlined in 29 CFR 1910.120 and 8 California Code of Regulations (CCR) 5192.

PPP HAZ-5 Federal Aviation Regulation (FAR) Part 77 establishes standards for determining whether objects constructed near airports would be considered obstructions in navigable airspace, sets forth notice requirements of certain types of proposed construction or alterations, and

provides for aeronautical studies to determine the potential impacts of a structure on the flight of aircraft through navigable airspace. FAR Part 77 requires notification to the Federal Aviation Administration (FAA) for any project that would be more than 200 feet in height above the ground level pursuant to FAR Part 77 Section 77.13. As the project is located within the FAR Part 77 Notification Area for John Wayne Airport, the project would be subject to FAR Part 77 requirements.

SCA HAZ-1 Prior to removal of underground tanks, the applicant shall contact the Orange County Environmental Health Care Agency for application procedures and guidelines. Issuance of building permits will be held until a clearance report is issued by the health agency and is submitted to planning staff.

5.7.4 Environmental Impacts

5.7.4.1 METHODOLOGY

The Phase I ESA was conducted in general accordance with the requirements of 40 CFR Part 312, *Standards and Practices for All Appropriate Inquiries*, as required under Sections 101(35)(B)(ii) and (iii) of CERCLA. The purpose of conducting an all appropriate inquiries investigation into the previous ownership and uses of a property is to meet the provisions necessary for the landowner, contiguous property owner, and/or bona fide prospective purchaser to qualify for certain landowner liability protections under CERCLA.

The purpose of the Phase I ESA was to identify evidence or indications of RECs. RECs are defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property:

- Due to release to the environment;
- Under conditions indicative of a release to the environment; or
- Under conditions that pose a material threat of a future release to the environment.

Additionally, an Historical REC (HREC) is a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls. Controlled REC (CREC) is defined as a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

5.7.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which there may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Thresholds HAZ-3, HAZ-4, and HAZ-7 have no impacts and are included in Chapter 8.

Impact 5.7.1: Project construction and operation could create a significant hazard through the routine transport, use, or disposal of hazardous waste. [Threshold HAZ-1]

Impact Analysis:

Construction

Construction of the proposed project would involve demolition, grading, and construction of new buildings. Potentially hazardous materials used during construction include substances such as paints, sealants, lubricants, solvents, adhesives, cleaners, and diesel fuel. There is potential for these materials to spill or to create hazardous conditions. The materials used, however, would not be in such quantities or stored in such a manner as to pose a significant safety hazard. These activities would also be short term and would cease upon completion of construction.

To prevent hazardous conditions, existing local, State, and Federal laws such as those listed under Section 5.7.1.1, *Regulatory Framework*, are to be enforced at the construction sites. For example, compliance with existing regulations would ensure construction workers and the general public are not exposed to any risks related to hazardous materials during demolition and construction activities. Cal/OSHA has regulations concerning the use of hazardous materials, including requirements for safety training, exposure warnings, availability of safety equipment, and preparation of emergency action/prevention plans. For example, all spills or leakage of petroleum products during construction activities are required to be immediately contained, the hazardous material identified, and the material remediated in compliance with applicable State and local regulations for the cleanup and disposal of that contaminant. All contaminated waste encountered would be required to be collected and disposed of at an appropriately licensed disposal or treatment facility.

The Phase I ESA did not identify any RECs in connection with the property, therefore, grading activities would not be expected to encounter hazardous materials due to current or historical operations. The past use of the project site, however, as an automotive warehouse suggests the potential for past use/storage of hazardous substance and/or petroleum products and the presence of undocumented underground storage tanks (USTs) and/or other subsurface equipment. Excavation and grading activities have the potential to encounter undocumented USTs and releases of hazardous substances and/or petroleum products. If USTs are encountered, the applicant would be required to contact OCHCA for application procedures and guidelines in compliance with SCA HAZ-1. However, impacts related to releases of hazardous substances and/or petroleum products, as well as subsurface equipment, would be potentially significant during the construction phase.

There is a high likelihood that ACMs are present in association with the on-site building, since the building was constructed by 1975, before asbestos was generally phased out of use in the 1980s. Based on the Asbestos Survey, there is a high likelihood that ACMs are present on-site in concentrations greater than one percent (friable). Demolition of the existing building has the potential to expose and disturb ACMs. The EPA specifies that ACM classified as friable, or that could become friable, is to be removed prior to renovation or demolition activities. According to the EPA, nonfriable ACM represents a minimal hazard to the occupants of a building as long as the material is in a generally undamaged condition and used for its intended purpose. In addition,

the National Emission Standards for Hazardous Air Pollutants and SCAQMD require that both friable ACM and nonfriable ACM that could become friable be removed prior to renovation or demolition activities (see PPP HAZ-3).

In addition to ACMs, it is possible that LBPs were used historically on-site and PCBs are in building materials. As such, demolition of the existing building has the potential to expose and disturb LBP and PCBs. Abatement of all hazardous materials encountered during building demolition would be required to be conducted in accordance with the applicable laws and regulations, including those of DTSC, EPA, OSHA, Cal/OSHA, and SCAQMD (see PPP HAZ-1 through PPP HAZ-4). Compliance with these regulations would ensure the safe handling, treatment, removal, and disposal of ACMs, LBP, and PCBs. As such, impacts pertaining to demolition of the existing building would be less than significant.

The use, storage, transport, and disposal of construction-related hazardous materials would be required to conform to existing laws and regulations (see PPP HAZ-1 and PPP HAZ-2). Compliance with applicable laws and regulations governing the use, storage, transportation, and disposal of hazardous materials would ensure all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts. For example, all spills or leakage of petroleum products during construction activities are required to be immediately contained, the hazardous material identified, and the material remediated in compliance with applicable State and local regulations for the cleanup and disposal of that contaminant. All contaminated waste would be required to be collected and disposed of at an appropriately licensed disposal or treatment facility. Impacts in this regard would be less than significant.

Operation

Operation of the proposed residential, retail, office, and recreational uses would involve the use of small amounts of hazardous materials, such as cleansers, paints, fertilizers, and pesticides for cleaning and maintenance purposes. However, the proposed land uses are not associated with uses that use, generate, store, or transport large quantities of hazardous materials; such uses generally include manufacturing, industrial, medical (e.g., hospital), and other similar uses.

Additionally, the use, storage, transport, and disposal of hazardous materials would be governed by existing regulations of several agencies, including DTSC, EPA, U.S. Department of Transportation, Cal/OSHA, and OCHCA.[2] Compliance with applicable laws and regulations governing the use, storage, transportation, and disposal of hazardous materials would ensure all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts. Therefore, substantial hazards to the public or the environment arising from the routine use, storage, transport, and disposal of hazardous materials during long-term operation of the proposed project would not occur.

Level of Significance Before Mitigation: Potentially Significant Impact.

[2] OCHCA is the Certified Unified Program Agency (CUPA) for most of Orange County, including the City of Costa Mesa; the Certified Unified Program coordinates and makes consistent enforcement of several State and Federal regulations governing hazardous materials.

Impact 5.7-2: Project construction and operations could create a significant hazard through reasonably foreseeable upset and accident conditions involving the release of hazardous materials. [Threshold HAZ-2]

Impact Analysis:

The proposed project would be constructed and operated with strict adherence to all emergency response requirements set forth by OCHCA and the City of Costa Mesa's EOP. Additionally, the use, storage, transport, and disposal of hazardous materials would be governed by existing regulations of several agencies, including DTSC, EPA, U.S. Department of Transportation, Cal/OSHA, and OCHCA. However, as the project site historically operated as an automotive warehouse, there is a potential that hazardous materials, petroleum products, USTs, and other subsurface equipment may be present on-site. Excavation and grading activities have the potential to encounter undocumented USTs and releases of hazardous substances and/or petroleum products. If USTs are encountered, the applicant would be required to contact OCHCA for application procedures and guidelines in compliance with SCA HAZ-1. However, hazards to the public or the environment arising from reasonably foreseeable upset and accident conditions involving the disturbance of hazardous materials in soils would be a potentially significant impact.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.7-3: The project would be located within an airport land use plan (or where such a plan has not been adopted) or within two miles of a public airport or public use airport, but would not result in a safety hazard for people residing or working in the project area. [Threshold HAZ-5]

Impact Analysis:

The closest airport to the project site is the John Wayne Airport, located approximately 3.5 miles to the southeast. The project site is not located within the airport's Safety Compatibility Zones (OCALUC 2008). However, the project site is located within the AELUP Notification Area for John Wayne Airport (OCALUC 2008). The ALUC has adopted FAR Part 77 as the criteria for determining height restrictions in Orange County. Any project that would be more than 200 feet in height above the ground level is required to notify the FAA, pursuant to FAR Part 77 Section 77.13 (see PPP HAZ-5). The project would involve construction of a mixed-use development. The proposed project would not exceed FAA's notification requirement of 200 feet and would not introduce a safety hazard associated with airport operations. Thus, a less than significant impact would occur in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.7-4: Project development could affect the implementation of an emergency responder or evacuation plan. [Threshold HAZ-6]

Impact Analysis:

The proposed project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. Project construction activities could result in short-term temporary impacts to street traffic along Sunflower Avenue. While temporary lane closures may be required, travel along surrounding roadways would remain open and would not interfere with emergency access in the site vicinity. According to the General Plan, the City maintains an EOP, which addresses the City's planned responses to natural and human-caused disasters. The City of Costa Mesa Fire Department provides emergency medical and fire protection support, and the Costa Mesa Police Department is responsible for coordinating law enforcement and traffic control operations in emergency situations. The project would not affect the existing emergency service operations. As such, impacts in this regard would be less than significant.

As shown on Figure S-9, *Public Safety Facilities and Emergency Evacuation Routes*, of the General Plan's Safety Element, the nearest designated emergency evacuation route is Harbor Boulevard, to the east of the project site. Project construction activities could result in short-term temporary impacts to street traffic along Sunflower Avenue as temporary lane closures may be required. Therefore, emergency access to evacuation routes may be interrupted and impacts would be potentially significant.

Level of Significance Before Mitigation: Potentially Significant Impact.

5.7.5 Cumulative Impacts

Impact 5.7.5: Construction and operation of the proposed project and related projects could create a cumulatively considerable impact to the environment through the routine transport, use, or disposal of hazardous waste. [Threshold HAZ-1]

Impact Analysis:

Construction

Cumulative projects are not anticipated to result in a cumulatively considerable hazardous materials impact during construction. All construction activities would be subject to compliance with existing laws and regulations (see PPP HAZ-1 and PPP HAZ-4) related to hazardous materials. Future development would be required to evaluate their respective hazards and hazardous materials impacts on a project-by-project basis. However, like the proposed project, the related cumulative projects identified in Table 4-2, *Related Projects*, would have the potential to encounter hazardous substances and/or petroleum products during construction. As discussed in Impact 5.7.1, the proposed project has the potential to encounter undocumented USTs and releases of hazardous substances and/or petroleum products during excavation and grading activities. Thus, the proposed project, combined with other related cumulative projects, may cause a cumulatively considerable significant impact through the routine transportation, use, disposal or release of hazardous materials during construction. Potential cumulatively considerable impacts would result in this regard.

Operation

Cumulative development would include some industrial and commercial uses, which could involve the use of various hazardous products in greater quantities; refer to Table 4-2. Cumulative residential development would also increase the use of household-type hazardous materials. The use, storage, disposal, and transport of hazardous materials could result in a foreseeable number of spills and accidents. All new development would be subject to compliance with applicable laws and regulations related to hazardous materials. Future development would be required to evaluate their respective hazards and hazardous materials impacts on a project-by-project basis. Compliance with all Federal, State, and local regulations during the operation of new developments would ensure there are no cumulatively considerable significant hazards to the public or the environment associated with the routine transportation, use, disposal, or release of hazardous materials during operations.

As concluded in Impact 5.7.1, substantial hazards to the public or the environment arising from the routine use, storage, transport, and disposal of hazardous materials during long-term operation of the proposed project would not occur. Thus, the proposed project would not result in cumulatively considerable significant impacts through the routine transportation, use, disposal, or release of hazardous materials during operations.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.7-6: Construction and operation of the proposed project and related projects could result in a cumulatively considerable impact through reasonably foreseeable upset and accident conditions involving the release of hazardous materials. [Threshold HAZ-2]

Impact Analysis:

Cumulative projects could result in the increase in handling of hazardous materials, potential for accidental conditions, or an increase in the transport of hazardous materials, particularly during site disturbance/demolition/remedial activities. However, with compliance with DTSC, OCHCA, EPA, and Cal/OSHA laws and regulations, these impacts would be minimized. Compliance with all applicable Federal and State laws and regulations related to the handling of hazardous materials would reduce the likelihood and severity of accidents. As discussed in Impact 5.7-2, implementation of the proposed project would result in a potentially significant impact regarding reasonably foreseeable upset and accident conditions involving the release of hazardous materials. Therefore, the proposed project would have a potentially significant cumulatively considerable impact involving hazards and hazardous materials.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.7-7: The project and related projects could be located within an airport land use plan (or where such a plan has not been adopted) or within two miles of a public airport or public use airport, but would not result in a safety hazard for people residing or working in the project area. [Threshold HAZ-5]

Impact Analysis:

As concluded in Impact 5.7-3, the proposed project would result in a less than significant impact with regard to airport safety hazards for people residing or working in the project area. Like the proposed project, the related cumulative projects identified in Table 4-2 would be subject to the applicable laws and regulations, including those of the FAA and ALUC. Therefore, the proposed project, in conjunction with other related cumulative projects, would not be cumulatively considerable with regard to airport safety hazards for people residing or working in the project area; impacts would be less than significant in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.7-8: Development of the proposed project and related projects could affect the implementation of an emergency responder or evacuation plan. [Threshold HAZ-6]

Impact Analysis:

Cumulative projects in the area would be analyzed for impairment of emergency access vehicles and consistency with the City's EOP on a project-by-project basis and would be required to comply with all City roadway design standards to ensure adequate emergency access is not impacted. However, as concluded in Impact 5.7-4, the proposed project was determined to have a potentially significant impact regarding emergency access to evacuation routes due to lane closures. Therefore, the proposed project would have a potentially significant cumulatively considerable impact with regard to interfering with an emergency responder or evacuation plan.

Level of Significance Before Mitigation: Potentially Significant Impact.

5.7.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be **less than significant**: Impacts 5.7-3 and 5.7-7.

However, without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.7-1:** Project construction and operation could create a significant hazard through the routine transport, use, or disposal of hazardous waste.
- **Impact 5.7-2:** Project construction and operations could create a significant hazard through reasonably foreseeable upset and accident conditions involving the release of hazardous materials.
- **Impact 5.7-4:** Project development could affect the implementation of an emergency responder or evacuation plan.

- **Impact 5.7-5:** Construction and operation of the proposed project and related projects could create a cumulatively considerable impact to the environment through the routine transport, use, or disposal of hazardous waste.
- **Impact 5.7-6:** Construction and operation of the proposed project and related projects could result in a cumulatively considerable impact through reasonably foreseeable upset and accident conditions involving the release of hazardous materials.
- **Impact 5.7-8:** Development of the proposed project and related projects could affect the implementation of an emergency responder or evacuation plan.

5.7.7 Mitigation Measures

Impact 5.7-1

HAZ-1 Prior to issuance of a grading permit, the Soils Management Plan (SMP) (prepared by Geocon Incorporated, dated July 24, 2019) shall be made available to the contractor and City Engineer for use prior to and during grading activities. The following Performance Criteria shall be incorporated into the SMP prior to issuance of a grading permit:

- Site-specific health and safety requirements, pre-field activities, site control, excavation of impacted soil, dust and erosion control, air monitoring, decontamination, field documentation and confirmation soil sampling shall be implemented under the oversight of a licensed professional geologist or engineer and the appropriate regulatory oversight agencies (including DTSC and Santa Ana RWQCB) shall be notified, as required by law;
- If contaminated soil is encountered, the appropriate regulatory oversight agencies (e.g., DTSC, RWQCB, OCHCA) shall be notified;
- Soil sampling shall follow the protocols outlined in the DTSC Preliminary Endangerment Assessment Guidance Manual dated October 2015; and
- Soil import/export verification sampling shall be conducted by a qualified environmental professional to confirm the presence or absence of hazardous materials prior to hauling off-site. Proof of verification sampling shall be provided to the City Engineer prior to import/export. In the event potential contamination is encountered, the contamination shall be evaluated by the qualified environmental professional using appropriate collection and sampling techniques as determined by the appropriate regulatory oversight agency (e.g., DTSC, RWQCB, OCHCA). The nature and extent of contamination shall be determined and the appropriate handling, disposal, and/or treatment shall be implemented in accordance with applicable regulatory requirements.

HAZ-2 Contractors shall be responsible for the health and safety of their own employees and are required to have their own Health and Safety Plan (HSP) and Injury and Illness Prevention Plans (IIPPs) to comply with OSHA. The HSPs shall provide health and safety guidance such that field activities can be conducted in a safe manner. The plan must be kept on site during any soil disturbance and hauling activities, if required.

Impact 5.7-2

Refer to Mitigation Measures HAZ-1 and HAZ-2.

Impact 5.7-4

HAZ-3 At least three business days prior to any lane closure, the construction contractor shall notify the Costa Mesa Police Department and Costa Mesa Fire Department, along with the City of Costa Mesa Public Services Director, of construction activities that would impede movement (such as road or lane closures), to allow for uninterrupted emergency access of evacuation routes.

Impact 5.7-5

Refer to Mitigation Measures HAZ-1 and HAZ-2.

Impact 5.7-6

Refer to Mitigation Measures HAZ-1 and HAZ-2.

Impact 5.7-8

Refer to Mitigation Measure HAZ-3.

5.7.8 Level of Significance After Mitigation

Impact 5.7-1

The project would be required to comply with Mitigation Measures HAZ-1 and HAZ-2, which would ensure the safe handling of any suspicious soil or unknown features that may be encountered during grading activities. If encountered, these areas of concern would be assessed by a qualified environmental professional and handled per the requirements provided the Soil Management Plan and the performance criteria as outlined in Mitigation Measure HAZ-1. With implementation of Mitigation Measures HAZ-1 and HAZ-2, impacts would be reduced to less than significant levels.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.7-2

Refer to the discussion above. With implementation of Mitigation Measures HAZ-1 and HAZ-2, project impacts with regard to hazards to the public or the environment arising from reasonably foreseeable upset and accident conditions involving hazardous materials would be reduced to less than significant levels.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.7-4

The project would be required to comply with Mitigation Measure HAZ-3, which requires the project applicant to notify the Costa Mesa Police Department, Costa Mesa Fire Department, and the City of Costa Mesa Public Services Director of construction activities that would impede movement (such as road or lane closures) along Sunflower Avenue. Compliance with Mitigation Measure HAZ-3 would allow for uninterrupted emergency access to evacuation routes. Thus, project impacts with regard to interfering with an emergency responder or evacuation plan would be reduced to less than significant levels.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.7-5

Refer to the discussion above. With implementation of Mitigation Measures HAZ-1 and HAZ-2, project impacts through the routine transportation, use, disposal, or release of hazardous materials would be less than significant and would not be cumulatively considerable.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.7-6

Refer to the discussion above. With implementation of Mitigation Measures HAZ-1 and HAZ-2, project impacts with regard to hazards to the public or the environment arising from reasonably foreseeable upset and accident conditions involving hazardous materials would be less than significant and would not be cumulatively considerable.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.7-8

Refer to the discussion above. With implementation of Mitigation Measure HAZ-3, project impacts with regard to interfering with an emergency responder or evacuation plan would be less than significant and would not be cumulatively considerable.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Chapter 5.8 Hydrology and Water Quality

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5.8 HYDROLOGY AND WATER QUALITY

This section of the Draft EIR evaluates the potential for the project to impact hydrology and water quality. Hydrology is related to the distribution and circulation of water, both on land and underground. Water quality is related to the quality of surface water and groundwater. Surface water includes lakes, rivers, streams, and creeks; groundwater is under the Earth's surface.

The analysis in this section is based in part on the following information:

- *Preliminary Hydrology Report* (Preliminary Hydrology Report), Urban Resource Corporation, November 1, 2019;
- *Preliminary Water Quality Management Plan* (Preliminary WQMP), Urban Resource Corporation, August 14, 2019; and
- *California Senate Bill 610 Water Supply Assessment for Mesa Water District One Metro West Project* (WSA), Michael Baker International, October 2019.

Complete copies of these studies are included in the technical appendices of this Draft EIR (Volume II, Appendix I, *Preliminary Hydrology Report*, Appendix J, *Preliminary WQMP*, and Appendix N, *Water Supply Assessment*).

5.8.1 Environmental Setting

5.8.1.1 REGULATORY BACKGROUND

Federal

Clean Water Act

The Clean Water Act (CWA) is a 1977 amendment to the Federal Water Pollution Control Act of 1972. The CWA is the principal statute governing water quality. It establishes the basic structure for regulating discharges of pollutants into the Waters of the United States[1] and gives the U.S. Environmental Protection Agency (EPA) the authority to implement pollution control programs, such as setting wastewater standards. The statute's goal is to end all discharges entirely and to restore, maintain, and preserve the integrity of the Nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the Nation's waters. The CWA sets water quality standards for all contaminants in surface waters and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges, requires states to establish site-specific water quality standards for navigable bodies of water, and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA also funded the construction of sewage treatment plants and recognized the need for planning to address nonpoint sources of pollution. The following CWA sections assist in ensuring water quality in surrounding water bodies:

[1] Waters of the United States generally include surface waters(e.g., lakes, rivers streams, bays, the ocean, dry streambeds, wetlands, and storm sewers) that are tributary to any surface water body.

- Section 208 requires the use of best management practices (BMPs) to control discharge of pollutants in stormwater during construction.
- Section 303(d) requires creation of a list of impaired water bodies by states, territories, and authorized tribes; evaluation of lawful activities that may impact impaired water bodies;[2] and preparation of plans to improve the quality of these water bodies. Water bodies on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution-control technology.
- Section 402(p) establishes a framework to control water pollution by regulating point source discharges under the National Pollutant Discharge Elimination System (NPDES) permit program. Point source discharges are readily identifiable, discrete inputs where waste is discharged to receiving waters from a pipe or drain. Nonpoint discharges occur over a wide area and are associated with particular land uses (such as urban runoff from streets and stormwater from construction sites).

National Pollution Discharge Elimination System

Under the NPDES program (CWA Section 402), all facilities that discharge pollutants from any point source into Waters of the United States must have a NPDES permit. The term "pollutant" broadly applies to any type of industrial, municipal, and agricultural waste discharged into water. Point sources can be publicly owned treatment works (POTWs), industrial facilities, and urban runoff. It is acknowledged that the NPDES program addresses certain agricultural activities, but the majority are considered nonpoint sources and are exempt from NPDES regulation. Direct sources discharge directly to receiving waters, and indirect sources discharge to POTWs, which in turn discharge to receiving waters. The NPDES program issues two basic permit types: individual and general. Also, the EPA has recently focused on integrating the NPDES program further into watershed planning and permitting (USEPA 2012).

The NPDES program has a variety of measures designed to minimize and reduce pollutant discharges. All counties with storm drain systems that serve a population of 100,000 or more, as well as construction sites one acre or more in size, must file for and obtain a NPDES permit. Another measure for minimizing and reducing pollutant discharges to a publicly owned conveyance or system of conveyances (including roadways, catch basins, curbs, gutters, ditches, man-made channels, and storm drains, designed or used for collecting and conveying stormwater) is the EPA's Storm Water Phase I Final Rule. The Phase I Final Rule requires an operator of a regulated municipal separate storm sewer system (MS4) to develop, implement, and enforce a program (e.g., BMPs, ordinances, or other regulatory mechanisms) to reduce pollutants in post-construction runoff to the City's storm drain system from new development and redevelopment projects that result in land disturbance of greater than or equal to one acre.

National Dam Safety Act of the Federal Emergency Management Agency

The National Dam Safety Act of 2006 authorized a program to reduce the risks to life and property from dam failure by establishing a safety and maintenance program. As the lead Federal agency for the National Dam Safety Program (NDSP), the Federal Emergency Management Agency (FEMA) is responsible for coordinating

[2] Impaired water bodies are water bodies that do not meet, or are not expected to meet, water quality standards.

efforts to secure the safety of dams throughout the United States. NDSP targets the improvement of dams and the safety of those who live in surrounding communities.

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 are intended to reduce the need for large, publicly funded flood control structures and disaster relief by restricting development on floodplains.

The National Flood Insurance Program (NFIP) provides a means for property owners to financially protect themselves from flood damage. The NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the program. Participating communities agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding. The County of Orange and City of Costa Mesa are participants and must adhere to the NFIP.

Through its Flood Hazard Mapping Program, FEMA identifies flood hazards, assesses flood risks, and partners with states and communities to provide accurate flood hazard and risk data. Flood Hazard Mapping is an important part of the NFIP, as it is the basis of the NFIP regulations and flood insurance requirements. FEMA maintains and updates data through Flood Insurance Rate Maps (FIRMs) and risk assessments. A FIRM is an official map of a community on which FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community.

A Special Flood Hazard Area (SFHA) is an area within a floodplain having a one percent or greater chance of flood occurrence within any given year (commonly referred to as the 100-year flood zone). SFHAs are delineated on flood hazard boundary maps issued by FEMA. The Flood Disaster Protection Act of 1973 and the National Flood Insurance Reform Act of 1994 make flood insurance mandatory for most properties in SFHAs.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.) is the basic water quality control law for California. Under this act, the State Water Resources Control Board (SWRCB) has ultimate control over State water rights and water quality policy. In California, the EPA has delegated authority to issue NPDES permits to the SWRCB. The State is divided into nine regions related to water quality and quantity characteristics. The SWRCB, through its nine Regional Water Quality Control Boards (RWQCBs) carries out the regulation, protection, and administration of water quality in each region. Each RWQCB is required to adopt a Water Quality Control Plan or Basin Plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's groundwater and surface water, and local water quality conditions and problems.

General Construction Permit

Pursuant to the CWA, in 2001, the SWRCB issued a Statewide general NPDES Permit for stormwater discharges from construction sites (NPDES No. CAS000002). Under this Statewide General Construction Permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or be covered by the General Construction Permit. Coverage by the General Construction Permit is accomplished by completing and filing a Notice of Intent with the SWRCB and developing and implementing a Storm Water Pollution Prevention Plan (SWPPP). Each applicant under the General Construction Permit must ensure a SWPPP is prepared prior to grading and is implemented during construction. The SWPPP must list BMPs implemented on the construction site to protect stormwater runoff. It must also contain a visual monitoring program, a chemical monitoring program for "nonvisible" pollutants to be implemented if there is a failure of BMPs, and a monitoring plan if the site discharges directly to a water body listed on the State's 303(d) list of impaired waters.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) established a framework for sustainable, local groundwater management. SGMA requires groundwater-dependent regions to halt overdraft and bring basins into balanced levels of pumping and recharge. With passage of the SGMA, the Department of Water Resources (DWR) launched the Sustainable Groundwater Management Program to implement the law and provide ongoing support to local agencies around the State. The SGMA:

- Establishes a definition of "sustainable groundwater management;"
- Requires a Groundwater Sustainability Plan be adopted for the most important groundwater basins in California;
- Establishes a timetable for adoption of Groundwater Sustainability Plans;
- Empowers local agencies to manage their groundwater basins sustainably;
- Establishes basic requirements for Groundwater Sustainability Plans; and
- Provides for a limited State role.

California Geological Survey Tsunami Inundation Maps

A tsunami is a sea wave generated by an earthquake, landslide, volcanic eruption, or even by a large meteor hitting the ocean. The California Geological Survey provides geologic and seismic expertise to the public, other State government offices, and local government agencies. The California Geological Survey works with the California Emergency Management Agency and the University of Southern California Tsunami Research Center to produce Statewide tsunami inundation maps. These maps, which were prepared to assist cities and counties in identifying their tsunami hazard, are used by coastal communities to prepare emergency evacuation plans.

Regional

Santa Ana River Basin Watershed Management Area Water Quality Control Plan

The City is in the Santa Ana River Basin in the Upper Santa Ana Watershed. The *Water Quality Control Plan for the Santa Ana River Basin (Region 8)* (Basin Plan) was last updated by the Santa Ana RWQCB in June 2019. The Basin Plan gives direction on the beneficial uses of the State waters in Region 8 (Chapter 3); describes the water quality that must be maintained to support such uses (Chapter 4); and provides programs, projects, and other actions necessary to achieve the standards established by the Santa Ana RWQCB.

North and Central Orange County Integrated Regional Water Management Plan

The *North and Central Orange County Watershed Management Area Integrated Regional Water Management Plan* (IRWMP) was prepared to identify and implement water management solutions on a regional scale. Agencies, organizations, and stakeholders collaborated to identify water resource needs, develop goals to improve water resource management, and evaluate projects for increased regional self-reliance.

The goals of the IRWMP are to increase water supply, protect water quality, enhance the environment and habitat, provide flood risk management, improve the quality of life, and address climate change. The IRWMP accomplishes these goals through an established process of ranking projects to help further State and regional goals (OCPW 2018).

Orange County Water District Groundwater Management Plan

The goal of the *Orange County Water District Groundwater Management Plan* (OCWD GMP) is to provide a planning framework to operate and manage the groundwater basin in a sustainable manner to ensure a long-term reliable supply for beneficial uses among all stakeholders in the Orange County Groundwater Basin (OC Basin). The purpose of the OCWD GMP is to develop consensus among stakeholders on issues and solutions related to groundwater; build relationships among stakeholders within the OC Basin and between local, State, and Federal agencies; and define actions for developing project and management programs to ensure the long-term sustainability of groundwater resources in the OC Basin.

Orange County MS4 Permit

MS4 permits are issued by local RWQCBs to provide the means to address stormwater quality issues specific to the local watershed or region. MS4 permits require permittees to develop and implement a stormwater management program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). The stormwater management program or drainage area management plan, as it is referred to in the Orange County MS4 Permit (Order No. R8-2009-0030 [NPDES Permit No. CAS618030]), must specify BMPs approved by the Santa Ana RWQCB.

The proposed project and its facilities would discharge into the MS4 within the jurisdiction of Costa Mesa. Pursuant to the Orange County MS4 Permit, the City is responsible for controlling or limiting urban pollutants generated by post-construction activities from reaching their MS4s. The proposed project is, therefore, subject

to the requirements of the Orange County MS4 Permit (Santa Ana Region) as it is applied by the permittee and its co-permittees.

De Minimis Waste Discharge Requirements for the Santa Ana Region

Order No. R8-2015-0004, NPDES No. CAG998001, includes general waste discharge requirements for discharges to surface waters that pose an insignificant (de minimis) threat to water quality and regulates dewatering discharges for the Santa Ana Region. The Order regulates proposed groundwater-related discharges and/or de minimis discharges within the San Diego Creek/Newport Bay Watershed that do not contain nutrients, selenium, and other pollutants of total maximum daily load (TMDL) concern at levels that pose a threat to water quality. Construction dewatering wastes, among other wastewater discharges, are regulated under this Order.

Model Water Quality Management Plan (WQMP) and Technical Guidance Document (TGD)

Model Water Quality Management Plan (WQMP), dated May 2011) and Technical Guidance Document (TGD) (dated December 2013) have been developed to aid the County of Orange, the Orange County Flood Control District, and cities of Orange County (the Permittees) and development project proponents with addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects that qualify as Priority Projects. The criteria for defining a "Priority Project" is provided in the Model WQMP and TGD.

The Model WQMP and TGD describe the process that Permittees employ for developing a WQMP for individual new development and significant redevelopment projects. A WQMP is a plan for minimizing the adverse effects of urbanization on site hydrology, runoff flow rates and pollutant loads. A WQMP, consistent with the Model WQMP and TGD, is required by the National Pollutant Discharge Elimination System (NPDES) permit administered by the Regional Water Quality Control Board.

Local

General Plan

The Conservation Element and Safety Element of the General Plan include the following goals, objectives, and policies pertaining to hydrology and water quality:

- **Goal CON-3:** Improved Water Supply and Quality. Pursue a multijurisdictional approach to protecting, maintaining, and improving water quality and the overall health of the watershed. A comprehensive, integrated approach will ensure compliance with federal and State standards, and will address a range of interconnected priorities, including water quality and runoff; stormwater capture, storage, and flood management techniques that focus on natural drainage; natural filtration and groundwater recharge through green infrastructure and habitat restoration; and water recycling and conservation.

    - **Objective CON-3.A:** Work towards the protection and conservation of existing and future water resources by recognizing water as a limited resource that requires conservation.

- **Policy CON-3.A.5:** Work with public and private property owners to reduce stormwater runoff in urban areas to protect water quality in storm drainage channels, the Santa Ana River, and other local water courses that lead to the Pacific Ocean.

- **Policy CON-3.A.6:** Continue to develop strategies to promote stormwater management techniques and storm drain diversion programs that collectively and naturally filter urban runoff.

- **Policy CON-3.A.7:** Continue to comply with the National Pollutant Discharge Elimination System Program (NPDES) by participating in the Countywide Drainage Area Management Plan (DAMP), which stipulates water quality requirements for minimizing urban runoff and discharge from new development and requires the provisions of applicable Best Management Practices (BMP).

- **Policy CON-3.A.8:** Require that all applicable development projects be reviewed with regards to requirements of both the on-site Water Quality Management Plan and State requirements for runoff and obtaining a Storm Water Pollution Prevention Plan (SWPPP) permit.

- **Goal S-1:** Risk Management of Natural and Human-Caused Disasters. Minimize the risk of injury, loss of life, property damage, and environmental degradation from seismic activity, geologic hazards, flooding, fire, and hazardous materials. Promote a sustainable approach to reduce impacts of natural disasters, such as flooding and fire.

  - **Objective S-1A:** Work to mitigate and prevent potential adverse consequences of natural and human-caused disasters.

    - **Policy S-1.9:** Continue to consult with appropriate local, State, and federal agencies to maintain the most current flood hazard and floodplain information; use the information as a basis for project review and to guide development in accordance with federal, State, and local standards.

    - **Policy S-1.10:** Regularly review and update Article 10 - Floodway and Floodplain Districts of the City's Municipal Code consistent with federal and State requirements.

    - **Policy S-1.11:** Improve and maintain local storm drainage infrastructure in a manner that reduces flood hazards.

    - **Policy S-1.14:** Minimize flood hazard risks to people, property, and the environment by addressing potential damage tsunamis and sea level rise.

    - **Policy S-1.15:** Consult with regional agencies and study strategies that employ engineering defensive methods along the Santa Ana River that limit potential flooding hazards from sea level rise.

    - **Policy S-1.16:** Develop emergency response, early warning notification, and evacuation plans for areas that are within dam inundation areas, where feasible.

Municipal Code

The Municipal Code addresses hydrology and water quality issues through Section 8-32, *Control of Urban Runoff*, and Article 10, *Floodway and Floodplain Districts*. The City's irrigation requirements are regulated through Section 13-107, *Irrigation Requirements.*

Municipal Code Section 8-32 mandates all new development within the City is undertaken in accordance with the County's DAMP and any conditions and requirements established by the City of Costa Mesa Development Services Department and the Public Services Department. Prior to issuance of a grading permit, building permit, or non-residential plumbing permit for any new development or significant redevelopment, the Development Services Department and the Public Services Department must review the project plans and impose terms, conditions, and requirements on a project in accordance with Municipal Code Section 8-32.

According to Municipal Code Title 13, Chapter 5, Article 10, floodway and floodplain districts and regulations are intended to be applied to those areas of the City which, under present conditions, are subject to periodic flooding and accompanying hazards.

Municipal Code Section 13-107 requires irrigation systems be designed so that overspray, runoff, and low-head drainage onto streets, sidewalks, windows, walls, and fences are minimized. Automatic systems for watering cycles should be scheduled to maximize ground infiltration rates and further minimize runoff.

5.8.1.2 EXISTING CONDITIONS

Regional Drainage

The City is located within the Santa Ana River Hydrologic Unit. This unit covers an area of approximately 2,700 square miles, which is within most of the Santa Ana RWQCB's jurisdictional area and includes portions of Orange, Los Angeles, Riverside, and San Bernardino counties. Within this hydrologic unit, the City encompasses both the Santa Ana River Watershed (northern portion) and the Newport Bay Watershed (southern portion). The project site is in the Santa Ana River Watershed, which covers approximately 210 square miles within the County. This watershed contains the Santa Ana River and Santiago Creek (OCPW 2011). The Santa Ana River passes about 1,000 feet northwest of the project site; refer to Figure 3-2, *Local Vicinity*.

The City provides storm drain service to the majority of the City and has approximately 42 miles of storm drains and 1,165 catch basins. City staff is responsible for inspection, maintenance, and repair of the City's storm drain system. This includes clearing blocked drains, removing debris from storm drain/catch basins structures, and cleaning and repairing damaged drain pipes. The objective is to reduce debris and pollution from reaching the ocean in compliance with the NPDES (Costa Mesa 2019e). The Orange County Resources and Development Management Department maintains the regional drainage facilities in the City, including the Santa Ana River and San Diego Creek.

Local Drainage

The existing site consists of surface parking, ornamental landscaping, and an industrial building. Approximately 18 percent of the site is pervious (2.7 acres), and the remaining 82 percent is impervious (12.5 acres).

Existing Conditions

The site is generally flat and divided into nine drainage sub-areas; refer to Figure 5.8-1, *Existing Drainage Conditions*. The sub-areas drain into either:

- An existing 66-inch cured-in-place pipe (CIPP) storm drain (running from Sunflower Avenue to the Interstate 405 (I-405) Freeway along the west side of the site), or
- An existing 24-inch reinforced concrete pipe (RCP) storm drain located along the eastern edge of the site.

The peak flow rates for the 25- and 10-year storms under existing conditions are described in Table 5.8-1, *Existing Conditions*.

Table 5.8-1 Existing Conditions

	Peak Drainage Q_{25} (cfs)	Peak Drainage Q_{10} (cfs)
Existing 66-inch Storm Drain Line	113.07	89.23
Existing 24-inch Storm Drain Line	14.60	12.15

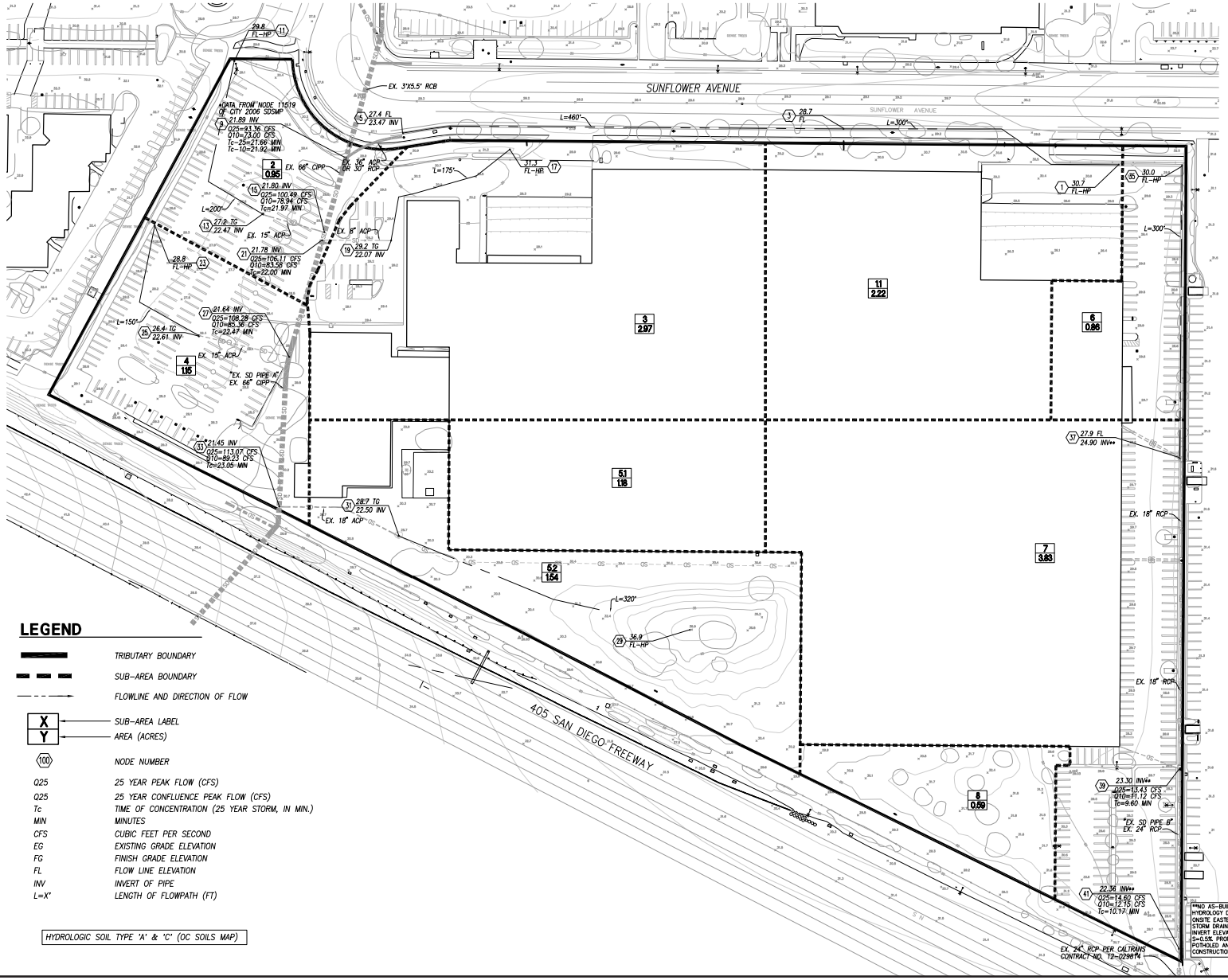
Source: URC 2019 (refer to Appendix I).
Notes:
Q_{25}= peak drainage from 25-year storm
Q_{10}= peak drainage from 10-year storm
cfs = cubic feet per second

Surface Water Quality

The Santa Ana River Reach 1 and the Newport Slough receive runoff from the project site. The Santa Ana River Reach 1 is on the CWA Section 303(d) List of Water Quality Limited Segments for Enterococcus, Fecal Coliform, and Total Coliform[3] (SWRCB 2019). There are no 303(d) listed impairments for the Newport Slough. According to the Basin Plan, the following beneficial uses are identified for the Santa Ana River Reach 1:

- **Municipal and Domestic Supply (MUN)**: MUN waters are used for community, military, municipal, or individual water supply systems. These uses may include, but are not limited to, drinking water supply.
- **Water Contact Recreation (REC1)**: REC1 waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses may include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.
- **Non-contact Water Recreation (REC2)**: REC2 waters are used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These uses may include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.

[3] Enterococcus, Fecal Coliform, and Total Coliform are indicators of the presence of fecal material in water.



Source: Urban Resource Corporation, 2019.

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ENVIRONMENTAL IMPACT REPORT

Existing Drainage Conditions

Figure 5.8-1

- **Warm Freshwater Habitat (WARM)**: WARM waters support warmwater ecosystems that may include, but are not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
- **Wildlife Habitat (WILD)**: WILD waters support wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.

Beneficial uses identified for the Newport Slough include MUN, REC1, REC2, and WILD, as well as the following:

- **Commercial and Sportfishing (COMM)**: COMM waters are used for commercial or recreational collection of fish or other organisms, including those collected for bait. These uses may include uses involving organisms intended for human consumption.
- **Rare, Threatened or Endangered Species (RARE)**: RARE waters support the habitats necessary for the survival and successful maintenance of plant or animal species designated under State or Federal law as rare, threatened, or endangered.
- **Marine Habitat (MAR)**: MAR waters support marine ecosystems that include, but are not limited to, preservation and enhancement of marine habitats, vegetation (e.g., kelp), fish, and shellfish, and wildlife (e.g., marine mammals and shorebirds).
- **Estuarine Habitat (EST)**: EST waters support estuarine ecosystems, which may include, but are not limited to, preservation and enhancement of estuarine habitats, vegetation, fish, and shellfish, and wildlife (e.g., waterfowl, shorebirds, and marine mammals).

Groundwater

Extensive portions of the County are underlain by deep deposits of permeable, water-bearing sedimentary geologic strata. Groundwater occurs in semi-consolidated to moderately consolidated sand, gravel, and silt occurring in aquifers extending from approximately 40 to over 2,500 feet below ground surface (bgs) in Costa Mesa. Depths to the uppermost aquifer vary throughout the City from approximately 40 feet bgs in the northern portions to over 100 feet bgs near the coast. Groundwater is present at depths of less than 40 feet bgs along the Santa Ana River.

Groundwater for Costa Mesa is withdrawn from the OC Basin. The OCWD manages the amount and quality of groundwater in the OC Basin (Costa Mesa 2016).

The Mesa Water District (MWD) supplies water to the City and owns and operates eight groundwater production wells. As of 2019, MWD relies on approximately 16,065 acre-feet per year (AFY) of groundwater from the OC Basin (Michael Baker 2019). This source of supply meets approximately 94 percent of MWD's total annual demand.

Perched groundwater occurs at the site at a depth between 10 and 20 feet bgs. Additionally, the Preliminary Geotechnical Investigation specifies the historic high perched groundwater depth is approximately 10 feet bgs; refer to Appendix E, *Preliminary Geotechnical Investigation*.

Groundwater Quality

Salinity and nitrates are significant water quality problems in many parts of Southern California, including Orange County. Salinity is a measure of the dissolved particles and ions in water, which can be measured as total dissolved solids (TDS) or electrical conductivity (EC). OCWD continuously monitors the levels of TDS in wells throughout the OC Basin. TDS currently has a California Secondary Maximum Contaminant Level (MCL) of 500 milligrams per liter (mg/L). The portions of the OC Basin with the highest levels are generally located in the cites of Irvine, Tustin, Yorba Linda, Anaheim, and Fullerton. There is also a broad area in the central portion of the OC Basin where TDS ranges from 500 to 700 mg/L. Sources of TDS include the water supplies used to recharge the OC Basin and on-site wastewater treatment systems, also known as septic systems. The TDS concentration in the OC Basin is expected to decrease over time as the TDS concentration of water used to recharge the OC Basin is approximately 50 mg/L.

Nitrates are one of the most common and widespread contaminants in groundwater supplies, originating from fertilizer use, animal feedlots, wastewater disposal systems, and other sources. The MCL for nitrate in drinking water is set at 10 mg/L. OCWD regularly monitors nitrate levels in groundwater and works with producers to treat wells that have exceeded safe levels of nitrate concentrations. OCWD manages the nitrate concentration of water recharged by its facilities to reduce nitrate concentrations in groundwater. This includes the operation of the Prado Wetlands, which was designed to remove nitrogen and other pollutants from the Santa Ana River before the water is diverted to be percolated into OCWD's surface water recharge system (MWD 2016).

Flooding Hazards

Federal Emergency Management Agency Flood Zone

According to the FEMA FIRM No. 06059C0258J, the project site is located in Zone X, which indicates an area of minimal flood hazard, not within a 100-year flood zone. However, it is acknowledged the site is an area of reduced flood risk due to the levees on the Santa Ana River and may be exposed to flood risk if overtopping of the levee occurs (FEMA 2009).

Dam Inundation

The project site is in the dam inundation area for the Prado Dam and Santiago Creek Dam; refer to General Plan Safety Element Figure S-5, *Local Flooding Hazards*. The Prado Dam is 21 miles northeast from the project site. Although the dam was designed in the 1930s, risk of inundation as a result of dam failure has decreased due to the Seven Oaks Dam, which was completed in November 1999 and is located approximately 40 miles upstream on the Santa Ana River. During a flood, Seven Oaks Dam would store water destined for Prado Dam for as long as the reservoir pool at Prado Dam is rising. When the flood threat at Prado Dam has passed, the Seven Oaks Dam would begin to release its stored flood water at a rate that does not exceed the downstream channel capacity. Working in tandem, the Prado and Seven Oaks Dams provide increased flood protection to the County. The Prado Dam has been designed to protect against a 100-year flood (or a one percent chance event).

The Santiago Creek Dam is 13 miles northeast of the project site. The dam is located near the City of Irvine and was constructed in 1931. Santiago Creek Dam is jointly owned by the Irvine Ranch Water District (IRWD) and Serrano Water District. The dam is inspected twice a year by the California Division of Safety of Dams (DSOD). DSOD deemed the dam safe for continued use. In addition to State-mandated inspections, IRWD retains geotechnical consultants that specialize in dams to perform an extra semi-annual inspection of the dam. IRWD staff visually inspect the dam daily and have caretakers who live on-site and also observe the dam daily. Measurements of drain flows, monitoring wells, and piezometers are taken monthly. Piezometers are used to measure groundwater and other fluid pressure levels. Dam crest survey markers, which give the ability to measure horizontal or vertical movement of the dam, are measured by a licensed surveyor annually (IRWD 2019).

Tsunamis

Tsunamis are large ocean waves caused by underwater seismic activity. When tsunamis hit the coast, they can cause considerable damage to property and put the public at risk. The project site is located approximately 4.5 miles inland from the Pacific Ocean. According to the California Department of Conservation, the project site is not within a tsunami hazard zone (DOC 2015).

Seiches

A seiche is a surface wave created in an enclosed or partially enclosed body of water, which can be compared to the back-and-forth sloshing in a bathtub. Seiches usually occur as a result of earthquake activity. According to the General Plan EIR, the absence of any large bodies of water within Costa Mesa and the location of high bluffs adjacent to Newport Bay preclude the possibility of damage from seiches at the project site.

5.8.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

HYD-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

HYD-2 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

HYD-3 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 a substantial erosion or siltation on- or off-site.

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

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

iv) Impede or redirect flood flows.

HYD-4 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

HYD-5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

No impacts relating to Threshold HYD-4 were identified, as substantiated in Chapter 8, *Impacts Found Not to Be Significant*, of this Draft EIR. This threshold is not addressed in the following analysis.

5.8.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to hydrology and water quality.

PPP HYD-1 National Pollutant Discharge Elimination System (NPDES): General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities, NPDES No. CAS000002. Compliance requires filing a Notice of Intent (NOI), a Risk Assessment, a Site Map, a Storm Water Pollution Prevention Plan (SWPPP) with associated best management practices (BMPs), an annual fee, and a signed certification statement.

PPP HYD-2 Orange County MS4 Permit (R8-2009-0030, as amended by Order No. R8-2010-0062, or most recent): The MS4 Permit requires new development and redevelopment projects to:

- Control contaminants into storm drain systems;
- Educate the public about stormwater impacts;
- Detect and eliminate illicit discharges;
- Control runoff from construction sites; and
- Implement best management practices (BMPs) and site-specific runoff controls and treatments for new development and redevelopment.

PPP HYD-3 As required by Municipal Code Section 8-32, *Control of Urban Runoff*, the proposed project would be undertaken in accordance with the County's *Drainage Area Management Plan* (DAMP) and any conditions and requirements established by the Development Services Department and the Public Services Department, which are reasonably related to the reduction or elimination of pollutants in stormwater runoff from the project site. Prior to the issuance of a grading permit, building permit, or non-residential plumbing permit for any new development, or significant redevelopment, the Development Services Department and Public Services Department would review the project plans and impose terms, conditions, and requirements on the project in accordance with Municipal Code Section 8-32.

PPP HYD-4 As required by Municipal Code Section 13-107, *Irrigation Requirements*, irrigation systems would be designed to reduce overspray, runoff, and low-head drainage onto streets, sidewalks, windows, walls, and fences. Automatic systems for watering cycles would be scheduled to maximize ground infiltration rates and further minimize runoff.

PPP HYD-5 Project dewatering would comply with the Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (Order No. 2003-0003-DWQ) or the De Minimis Waste Discharge Requirements for the Santa Ana Region (Order No. R8-2015-0004, NPDES No. CAG998001), as required.

PPP HYD-6 As required by Municipal Code Section 8-32, the project is required to comply with the recommendations outlined in the *Preliminary Water Quality Management Plan* (Preliminary WQMP), prepared by Urban Resource Corporation on April 30, 2019. A final WQMP must be submitted and approved by the City prior to the issuance of a grading permit. The WQMP includes site design measures, source control measures, and treatment measures that minimize the potential for erosion and siltation. In addition, the WQMP must include an operations and maintenance (O&M) plan and maintenance agreement for review and approval by the City to ensure the treatment measures installed at the site are maintained for perpetuity.

Refer to Section 5.2, *Air Quality*, for a discussion of SCA HYD-1 through SCA HYD-3.

5.8.4 Environmental Impacts

5.8.4.1 METHODOLOGY

The Preliminary Hydrology Report and Preliminary WQMP analyzed drainage and water quality impacts on-site; refer to Appendix I and Appendix J, respectively. The proposed condition rational method peak flows included in the Preliminary Hydrology Report were analyzed using the Advance Engineering Software package for Orange County, which complies with the *Orange County Hydrology Manual, 1996, Addendum No. 1 85 Percent Upper Confidence Level Procedure*. The analysis evaluated 25- and 10-year storm events consistent with City requirements. The Preliminary WQMP was prepared to comply with the water quality requirements of the local NPDES Stormwater Program to meet the City's MS4 Permit requirements.

5.8.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which there may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.8-1: The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. [Threshold HYD-1]

Impact Analysis:

Urban runoff resulting from storms or nuisance flows (runoff during dry periods) from development projects can carry pollutants to receiving waters. Runoff can contain pollutants such as oil, fertilizers, pesticides, trash, soil, and animal waste. This runoff can flow directly into local streams or lakes or into storm drains and continue through pipes until it is released untreated into a local waterway and eventually the ocean. Untreated stormwater runoff degrades water quality in surface waters and groundwater and can affect drinking water, human health, and plant and animal habitats. As discussed, the project site is a tributary to Santa Ana River Reach 1 and the Newport Slough. The Santa Ana River Reach 1 is listed on the CWA Section 303(d) List of Water Quality Limited Segments for Enterococcus, Fecal Coliform, and Total Coliform (SWRCB 2019). There are no 303(d) listed impairments for the Newport Slough.

Construction

General Construction Permit

Construction activities associated with the proposed project may impact water quality due to sheet flow, causing erosion of exposed soils. Project construction is expected to generate sediment, nutrients, metals, trash and debris, and oil and grease. Nutrients include nitrogen and phosphorus.

To reduce short-term water quality impacts, construction and demolition activities would require compliance with the General Construction Permit Water Quality Order 2009-0009-DWQ (as amended by Order No. 2010-0014-DWQ and 2012-006-DWQ), which requires the preparation and implementation of a SWPPP pursuant to PPP HYD-1. The SWPPP would specify BMPs to be implemented to minimize demolition- and construction-related stormwater pollution impacts. Categories of BMPs included in SWPPPs are described in Table 5.8-2, *Construction Best Management Practices*. Compliance with the SWPPP and implementation of BMPs would ensure impacts associated with demolition and construction activities are minimized.

Further, the project would be subject to compliance with SCA HYD-1 through SCA HYD-3, which would ensure construction BMPs are implemented to minimize potential impacts to water quality. With the implementation of the SWPPP and BMPs during all construction activities and compliance with the City's erosion and sediment control requirements, the impact to water quality during construction activities would be less than significant.

Table 5.8-2 Construction Best Management Practices

Category	Purpose	Examples
Erosion Controls and Wind Erosion Controls	Consists of using project scheduling and planning to reduce soil or vegetation disturbance (particularly during the rainy season), preventing or reducing erosion potential by diverting or controlling drainage, as well as preparing and stabilizing disturbed soil areas.	Scheduling, preservation of existing vegetation, hydraulic mulch, hydroseeding, soil binders, straw mulch, geotextile and mats, wood mulching, earth dikes and drainage swales, velocity dissipation devices, slope drains, streambank stabilization, compost blankets, soil preparation/roughening, and non-vegetative stabilization
Sediment Controls	Filter out soil particles that have been detached and transported in water.	Silt fence, sediment basin, sediment riprap, check dam, fiber rolls, gravel bag berm, street sweeping and vacuuming, sandbag barrier, straw bale barrier, storm drain inlet protection, manufactured linear sediment controls, compost socks and berms, and biofilter bags
Wind Erosion Controls	Consists of applying water or other dust palliatives to prevent or minimize dust nuisance.	Dust control soil binders, chemical dust suppressants, covering stockpiles, permanent vegetation, mulching, watering, temporary gravel construction, synthetic covers, and minimization of disturbed area
Tracking Controls	Minimize the tracking of soil off-site by vehicles.	Stabilized construction roadways and construction entrances/exits, and entrance/outlet tire wash.
Non-Storm Water Management Controls	Prohibit discharge of materials other than stormwater, such as discharges from the cleaning, maintenance, and fueling of vehicles and equipment. Conduct various construction operations, including paving, grinding, and concrete curing and finishing, in ways that minimize non-stormwater discharges and contamination of any such discharges.	Water conservation practices, temporary stream crossings, clear water diversions, illicit connection/discharge, potable and irrigation water management, and the proper management of the following operations: paving and grinding, dewatering, vehicle and equipment cleaning, fueling and maintenance, pile driving, concrete curing, concrete finishing, demolition adjacent to water, material over water, and temporary batch plants.
Waste Management and Controls (i.e., good housekeeping practices)	Management of materials and wastes to avoid contamination of stormwater.	Stockpile management, spill prevention and control, solid waste management, hazardous waste management, contaminated soil management, concrete waste management, sanitary/septic waste management, liquid waste management, and management of material delivery storage and use.

Source: CASQA 2012.

Construction Dewatering Discharge

As previously noted, perched groundwater on-site is shallow and groundwater was encountered between 10 and 20 feet bgs. Therefore, it is likely that perched groundwater would be encountered during excavation. If groundwater is present above the proposed excavated bottom, the Preliminary Geotechnical Investigation indicates temporary dewatering would be required to maintain a safe working environment during excavation and construction activities. The Preliminary Geotechnical Investigation also recommends a qualified dewatering consultant be retained to design the dewatering system. Temporary dewatering may consist of perimeter wells with interior well points as well as gravel-filled trenches (French drains) placed adjacent to the shoring system and interior of the site. The French drains would direct the collected seepage to a sump where it would be pumped out and disposed. If dewatering discharge is piped to an infiltration basin during construction, the Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (Order No. 2003-0003-DWQ) would be required pursuant to PPP HYD-5. If dewatering discharge is piped to

storm drains, the requirements of the De Minimis Waste Discharge Requirements for the Santa Ana Region (Order No. R8-2015-0004, NPDES No. CAG998001) would govern dewatering activities during construction pursuant to PPP HYD-5. Compliance with Order No. 2003-0003-DWQ/Order No. R8-2015-0004, NPDES No. CAG998001 would ensure project construction dewatering would not cause State waste discharge and Federal NPDES permit requirements to be exceeded. A less than significant impact would occur in this regard.

Operation

Project operations would alter the existing land uses of the project site and, consequently, alter the potential pollutant sources generated at the site. Operational activities are expected to generate similar types of pollutants that construction would, although with a reduced possibility of sediment pollution, as well as pathogens and pesticides.

Low-Impact Development BMPs

Low-impact development (LID) is an approach to land development (or redevelopment) that works with nature to manage and treat stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features to minimize effective imperviousness and create functional, appealing site drainage that treats stormwater as a resource rather than a waste product. There are many practices that have been used to adhere to these principles, including bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. By implementing LID principles and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed. Applied on a broad scale, LID can maintain or restore a watershed's hydrologic and ecological functions (USEPA 2016). The project is required to infiltrate, harvest and use, evapotranspire, or biotreat/biofilter the 85th percentile, 24-hour storm event, which constitutes the design capture volume.

The Preliminary WQMP includes 19 proposed modular wetlands systems (MWS) or an approved similar system (see Figure 3-9, *Infrastructure Improvements – Storm Drain*) (PPP HYD-6). MWS are highly effective at removing sediments, oil and grease, and trash and debris, and moderately to highly effective at removing nutrients and pathogens/bacteria. MWS use multi-stage treatment processes, including screening media filtration, settling, and biofiltration. The pretreatment chamber contains the first three stages of treatment and includes a catch basin inlet filter to capture trash, debris, gross solids, and sediments; a settling chamber for separating out larger solids; and a media filter cartridge for capturing fine sediment, metals, nutrients, and bacteria. Runoff then flows through the wetland chamber. As stormwater passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded, and sequestered by the soil and plants. The discharge chamber at the end of the unit collects treated flows and discharges back into the storm drain system. Compliance with the design recommendations identified in the Preliminary WQMP would be required based on PPP HYD-6.

Site Design BMPs

Site design BMPs reduce post-project runoff by implementing design features with performance standards that minimize impervious areas and using infiltration features and/or detention/retention basins, as appropriate. In conformance with PPP HYD-2 and PPP HYD-3, the Preliminary WQMP specifies the following site design BMPs for the proposed project:

- **Minimize Impervious Areas.** Impervious areas would be minimized with proposed outdoor landscaped amenities. Building A, B, and C would incorporate landscaping within courtyards and around the buildings. Additionally, the 1.5-acre open space would be a significant source of pervious area.
- **Maximize Natural Infiltration Capacity:** There would be natural infiltration throughout the site due to proposed pervious areas within courtyards, around buildings, and at the proposed open space. However, using infiltration BMPs to meet LID requirements is considered infeasible due to shallow groundwater on-site.
- **Preserve Existing Drainage Pattern and Time of Concentration.** Existing drainage patterns would be maintained, and the rate of discharge off-site would be reduced, compared to existing conditions; refer to Impact 5.8-3. Project runoff would ultimately drain southeasterly and southwesterly to existing storm drains, mimicking existing drainage patterns. The proposed condition would convey flows with the use of on-site vegetated swales, street gutters, area drain lines, and storm drain lines.
- **Disconnect Impervious Surfaces:** Some proposed impervious areas, such as walkways, would be graded to direct surface flows through landscaping prior to entering the storm drain system.
- **Revegetate Disturbed Areas:** A number of mature ornamental trees and other landscape improvements throughout the site would be removed as a result of project construction. However, landscaping would be planted along the site perimeter and throughout the site.
- **Use Xeriscape Landscaping:** Proposed landscaping would include practical turf areas and efficient irrigation to reduce water and energy use.

Source Control BMPs

Structural Source Control BMPs

Structural source control BMPs are used in a project's design to both minimize runoff and keep pollutants from entering runoff.

The Preliminary WQMP prescribes the following structural source control BMPs, which also ensure compliance with PPP HYD-2 and PPP HYD-3:

- **Provide storm drain system stenciling and signage**: Catch basins would be stenciled with the phrase "No Dumping – Drains to Ocean" to alert the public to the destination of pollutants discharged into stormwater. The Property Owner/Owner Representative would be required to inspect stenciling at least once per year and re-stencil as necessary.
- **Design and construct trash and waste storage areas to reduce pollution**: All trash containers would include attached lids to prevent rain infiltration. No trash area drains would be constructed that drain to the municipal storm drain. Trash container areas would be paved with an impervious surface. Property Owner/Owner Representative would be required to maintain trash container areas monthly during regular maintenance activities, provide litter patrol, and empty trash receptacles noting and investigating any trash disposal violations by tenants or employees.
- **Use efficient irrigation systems and landscape design, water conservation, smart controllers, and source control**: Fertilizer/pesticide/herbicide and irrigation management practices and landscape management practices would be maintained consistent with the County Ordinance Amending the Zoning

Code regarding the conservation of water in landscaping for common areas of multi-family and non-residential development. Fertilizer and pesticide usage would be administered consistent with the County's *Management Guidelines for the Use of Fertilizers and Pesticides* (MGFP). The design and maintenance of the irrigation system would incorporate methods to minimize both the amount of water applied and the amount of runoff. The system would also be designed with the criteria established by the County and City. These methods may include:

- Employing shutoff devices to prevent irrigation after precipitation;
- Designing irrigation systems to each landscape area's specific water requirements;
- Using flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines;
- Designing the timing and application methods of irrigation water to minimize excess irrigation water into the municipal storm drain system;
- Grouping plants with similar water requirements and choosing plants with low irrigation requirements;
- Immediately correcting irrigation design or maintenance deficiencies that cause excessive runoff of irrigation water (the MS4 permit encourages use of weather-based evapotranspiration irrigation controllers for new developments); and
- Checking that water sensors are functioning properly to eliminate overspray in hardscape areas and to verify irrigation timing and cycle lengths are adjusted in accordance with water demands, given time of year, weather, and day or nighttime temperatures (the Property Owner/Owner Representative would check the system once a week in conjunction with maintenance activities).

Nonstructural Source Control BMPs

Nonstructural source control BMPs are activities and practices that reduce the potential for pollutants to contaminate runoff. The Preliminary WQMP specifies the following nonstructural source control BMPs for use in the proposed project, which also ensure compliance with PPP HYD-2 and PPP HYD-3:

- **Education for Property Owners, Tenants and Occupants**: Prior to occupancy, the developer would provide environmental awareness education materials to the new tenants.
- **Activity Restrictions**: The Specific Plan prohibits the outdoor storage of materials.
- **Common Area Landscape Management**: City-approved landscape construction plans would be prepared for the project. All landscape maintenance activities would conform to the County's MGFP. Landscape management is the responsibility of the developer. A monthly review of landscape maintenance and irrigation procedures would be performed. The developer would also manage landscaping in accordance with the County of Orange Water Conservation Ordinance No. 3802 and with management guidelines for use of fertilizers and pesticides, or City equivalent. The key applicable landscape BMPs include, but are not limited to:
  - Minimize irrigation runoff by using controllers to provide several short cycles instead of one long cycle for each area. The irrigation controller can be mechanical or electrical; however, the new systems are typically electromechanical or electronic controllers. Weather-based evapotranspiration irrigation controllers are encouraged by the MS4 Permit and would be considered for use on this project. Most

controllers have a capability for setting the frequency of irrigation, the start time, and the duration of watering.

- Immediately correct any irrigation design or maintenance deficiencies that cause excessive runoff of irrigation water.
- Follow the recommendations of the Orange County MGFP, Sections 2.0.4 and 2.0.5 for the application, storage, handling, and transportation of fertilizer.
- Prohibit application of chemicals less than three days prior to predicted chance of rain.
- Follow all fertilizer application with light irrigation to permit the fertilizer to soak into the landscape area.
- Conduct annual testing of turf soil until results stabilize and an accurate determination can be made of fertilization needs with the goal of reducing the application of unnecessary fertilizers. Soil testing and pursuant recommendations for fertilizer use would be conducted by a qualified fertilizer specialist as recommended in the Orange County MGFP., Section 2.3.1.
- Limit weed control to either mechanical methods or EPA-labeled herbicides.
- Use pesticides only after recommendation from a State-licensed pest control advisor per the Orange County MGFP, Section 3.3.1.
- Only apply pesticides by, or under the direct supervision of, a State-licensed or certified pesticide applicator or by workers with equivalent training per the Orange County MGFP., Section 3.4.1.
- Follow the recommendations of the Orange County MGFP., Section 3.0 for the storage, handling, and transportation of pesticides.

- **BMP Maintenance**: The developer would be responsible for implementing each of the stated nonstructural BMPs. These inspections would be done with regular maintenance activities on a monthly basis.
- **Common Area Litter Control**: The developer would implement trash management and litter control procedures on-site aimed at reducing pollution of drainage water. The property management company may contract with its landscape maintenance firm to provide this service during regularly scheduled maintenance. The service would consist of litter patrol and emptying of trash receptacles. Maintenance includes weekly sweeping and trash pickup within landscape areas and outside walkways. In addition, daily inspection of trash receptacles to ensure lids are closed and any excess trash on the ground is picked up would be provided.
- **Employee Training**: Employee training would be provided to maintenance personnel and is the responsibility of the developer. Implementation would be provided monthly for both maintenance personnel and employees. Concepts can include, but are not limited to, training on the proper storage and use of fertilizers and pesticides, or training on implementation of hazardous spill contingency plans.
- **Common Area Catch Basin Inspection**: The catch basins would be inspected, and cleaned if necessary, prior to the storm season and no later than October 1st of each year. Effective post-construction maintenance of storm collection and conveyance facilities would ensure not only their intended use but would also prevent excessive pollutants from entering the drainage system. Occasionally, catch basins and other drainage facilities become clogged by sediment and debris accumulation. In addition, it is not

uncommon for illicit dumping of waste material, particularly used motor oil, to occur at catch basins and drainage facilities. Periodic cleaning of catch basins and storm drains would provide the following benefits:

- Removal of pollutant loads from storm drain system;
- Reduction of high pollutant concentration during the "first flush" event; and
- Prevention of clogging of the downstream stormwater conveyance system.

- **Street Sweeping Private Streets and Parking Lots**: The developer will be responsible for weekly sweeping of streets and parking areas. Inspection and maintenance would be intensified around October 1st of each year prior to the "first flush" storm, according to the City's street sweeping program schedule.

Post-project water quality impacts would be less than significant after construction, operation, and maintenance of the BMPs specified in the Preliminary WQMP.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-2: The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. [Threshold HYD-2]

Impact Analysis:

The project site overlies the OC Basin and is currently largely covered with impervious surfaces. According to the DWR, the OC Basin is identified as a Medium priority basin (DWR 2019). OCWD manages the OC Basin through its GMP, which sets forth basin management goals and objectives and describes how the OC Basin is managed. The OCWD GMP's goals are: 1) to protect and enhance the groundwater quality of the OC Basin; 2) to protect and increase the sustainable yield of the OC Basin in a cost-effective manner; and 3) to increase the efficiency of OCWD operations.

Construction

Perched groundwater underlies the project site between 10 and 20 feet bgs and could be encountered during excavation. As a result, dewatering would likely be necessary. If dewatering discharge is piped to an infiltration basin during construction, the Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (Order No. 2003-0003-DWQ) would be implemented pursuant to PPP HYD-5. If dewatering discharge is piped to storm drains, the requirements of the De Minimis Waste Discharge Requirements for the Santa Ana Region (Order No. R8-2015-0004, NPDES No. CAG998001) would govern dewatering activities during construction pursuant to PPP HYD-5. However, construction activities would be temporary in nature and would not result in a substantial depletion of groundwater supplies that could result in a lowering of the groundwater table. Therefore, impacts to groundwater supplies during construction would be less than significant following conformance with PPP HYD-5.

Operation

The proposed project lies within MWD's water service area. Implementation of the proposed project would lead to an increased demand in water, and, therefore, would lead to an increase in groundwater pumping. According to MWD's *2016 Urban Water Management Plan* (UWMP), local groundwater provides approximately 94 percent of the City's total supply. The UWMP indicates the MWD would have sufficient water supplies to meet demands in single dry years and multiple dry years (that is, three consecutive dry years) over the period of 2020-2040 (MWD 2016). Further, a WSA was prepared for the proposed project to analyze the project's impact on future water supply. The WSA identifies a sufficient program of water supply for MWD, now and into the future, including sufficient water supply for the One Metro West development. Therefore, impacts to groundwater supplies during project operations would be less than significant.

In addition to water use consideration, the project site is not located within a local groundwater recharge area, and no groundwater extraction would occur as part of operations of the project. Thus, the project would not result in any groundwater extraction or depletion of groundwater supplies during operations and is not anticipated to interfere with the OCWD GMP. Impacts would be less than significant in this regard.

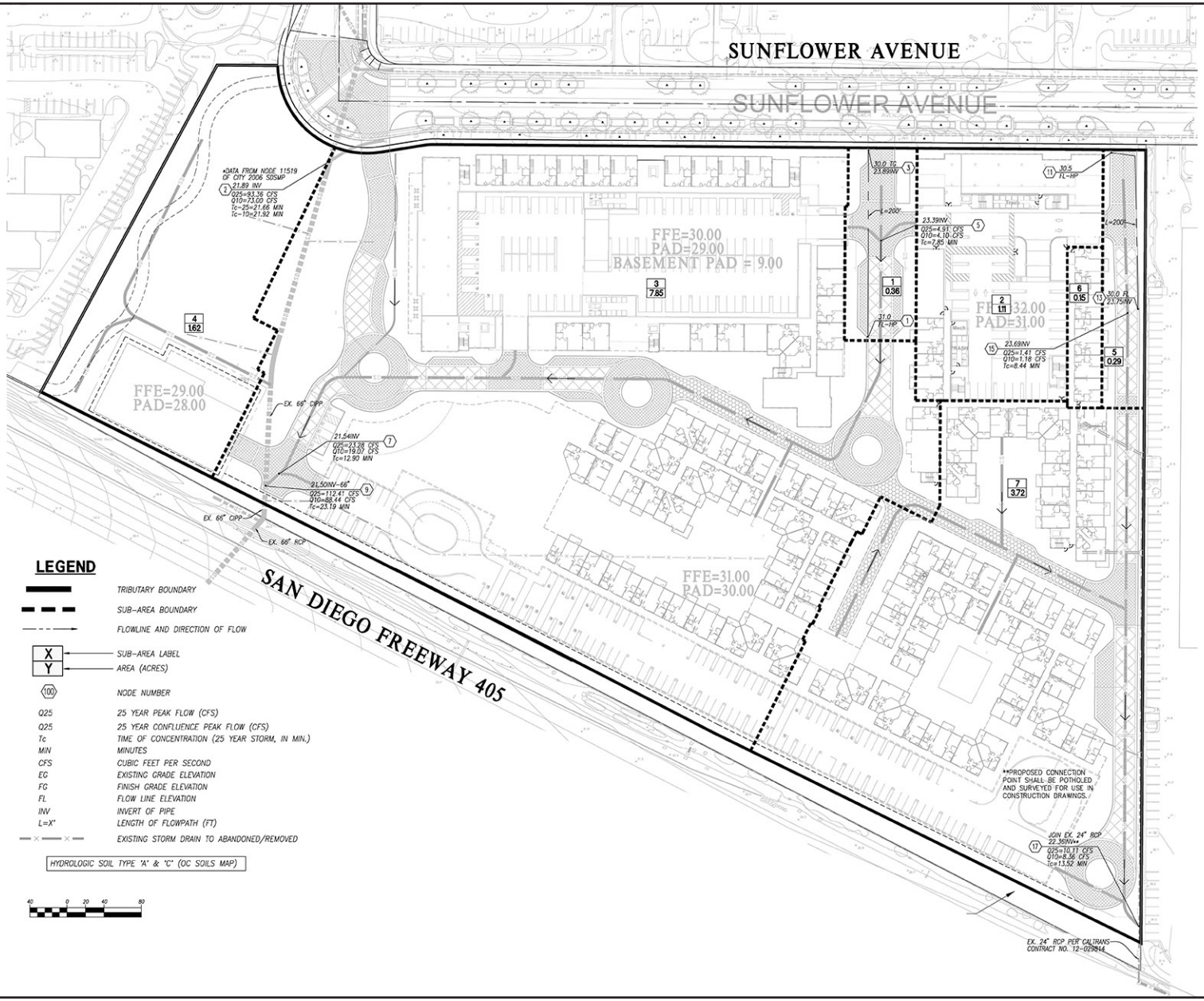
Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site. [Thresholds HYD-3 (i) and HYD-3(iii)]

Impact Analysis:

Proposed Drainage

Similar to existing conditions, on-site storm drains would connect to an existing 66-inch storm drain line flowing north/south through the project site and an 18- to 24-inch line along the eastern project boundary; refer to Figure 5.8-2, *Proposed Drainage Conditions*. The existing 66-inch storm drain, owned and maintained by the City, runs from Sunflower Avenue to the I-405 Freeway through the western portion of the site. The existing 24-inch storm drain (located at the southeastern portion of the project site) would be used to convey stormwater flows from the eastern portion of the site. Stormwater at the project site would be conveyed into on-site inlets, then to the 19 proposed MWS, and ultimately drain into the two existing on-site main storm drain lines (to the west and southeast). Therefore, the proposed project would not substantially alter the existing drainage pattern of the site or area. The peak flow rates for the 25- and 10-year storms under existing and proposed conditions are provided in Table 5.8-3, *Existing and Proposed Drainage Conditions*.



Source: Urban Resource Corporation, 2019.

ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Proposed Drainage Conditions

Michael Baker INTERNATIONAL

01/20 JN 172326

Figure 5.8-2

Table 5.8-3 Existing and Proposed Drainage Conditions

	Peak Drainage Q_{25} (cfs)	Peak Drainage Q_{10} (cfs)
Existing 66-inch Storm Drain Line		
Existing Conditions	113.07	89.23
Proposed Conditions	112.41	88.44
Existing 24-inch Storm Drain Line		
Existing Conditions	14.60	12.15
Proposed Conditions	10.11	8.36

Source: URC 2019 (refer to Appendix I).
Notes:
Q_{25}= peak drainage from 25-year storm
Q_{10}= peak drainage from 10-year storm
cfs = cubic feet per second

Although the percentage of impervious surfaces would increase slightly with the proposed project (85 percent impervious compared to 82 percent impervious under existing conditions), the peak flow rates for both the 25- and 10-year storm events would be reduced. This change is attributed to the construction of 19 MWS (or an approved similar system) to detain and treat stormwater on-site prior to discharge to the existing storm drains (refer to Figure 5.8-2).

As such, the proposed project would not substantially alter the existing drainage pattern of the site and does not involve the alteration of any natural drainage channels, streams, or rivers. Impacts would be less than significant in this regard.

Erosion and Siltation

The project would involve site improvements that require grading, excavation, and soil exposure during construction, with the potential for erosion or siltation to occur. If not controlled, the transport of these materials to local waterways could temporarily increase suspended sediment concentrations and release pollutants attached to sediment particles. To minimize this impact, the project would be required to comply with all of the requirements in the General Construction Permit, including preparation of a NOI and SWPPP prior to the start of construction activities pursuant to PPP HYD-1; see Impact 5.8-1. The SWPPP would describe the BMPs to be implemented during the project's construction activities. Examples of BMPs that may be implemented during the construction phase could include the following:

- Install on-site sediment basins to prevent off-site migration of erodible materials;
- Implement dust control measures, such as silt fences and regular watering of open areas;
- Stabilize construction entrances/exits;
- Install storm drain inlet protection measures; and
- Install sediment control measures around the site, including silt fences or gravel bag barriers.

In addition, the County requires preparation of an erosion and sediment control plan for projects that disturb more than one acre of land and implementation of BMPs to control erosion, debris, and construction-related pollutants. This would further reduce the potential for erosion and siltation during project construction.

There are also required post-construction control measures to minimize the potential for erosion and siltation. A final WQMP must be submitted and approved by the City prior to the issuance of a grading permit. The WQMP includes site design measures, source control measures, and treatment measures that minimize the potential for erosion and siltation. The operational phase of the proposed project would include landscaping and the project-related water quality design features discussed under Impact 5.8-1. In addition, the WQMP must include an O&M plan and maintenance agreement for review and approval by the City to ensure the treatment measures installed at the site are maintained for perpetuity (see PPP HYD-6). Further, the project would be subject to compliance with SCA HYD-1 through SCA HYD-3, which would ensure construction BMPs are implemented to reduce potential impacts to water quality.

Collectively, implementation of the BMPs outlined in the SWPPP, the erosion and sediment control plan, and the proposed landscaping and water quality design features would address the anticipated and expected erosion and siltation impacts during project construction and operations (see PPP HYD-1 through PPP HYD-4, PPP HYD-6, and SCA HYD-1 through SCA HYD-3). Therefore, the proposed project would not result in substantial erosion or siltation on- or off-site and impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-4: The proposed project would not substantially increase the rate or amount of surface runoff and result in flooding on- or off-site. [Threshold HYD-3 (ii)]

Impact Analysis:

As discussed under Impact 5.8-3, the site is already developed and is expected to reduce the rate of stormwater discharge, compared to existing conditions. However, the project would increase impervious surfaces on-site, and, as a result, is required to install appropriate storm drainage infrastructure to properly convey flows, improve water quality, and control the amount of runoff leaving the site at a given time.

Project development would increase impervious areas on-site from 12.5 acres (82 percent of the site) to 12.9 acres (85 percent of the site), a net increase of 0.4 acre. Proposed pervious areas would include landscaping and a 1.5-acre open space area. Landscaping would be emphasized along the site perimeter, throughout the residential areas, and at the open space.

As indicated under Impact 5.8-3, the proposed project would not substantially alter the existing drainage pattern of the site. Also, as shown in Table 5.8-3, the peak flows to the storm drain system from the 25- and 10-year storm events would decrease with implementation of the proposed project. Therefore, the proposed project would not increase the rate or amount of surface runoff leaving the site and is not anticipated to result in flooding on- or off-site during these storm events. Impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-5: The proposed project would not impede or redirect flood flows. [Threshold HYD-3 (iv)]

Impact Analysis:

According to the FIRM for the project area, the entire project site is located within Zone X and is outside of any 100-year flood hazard area. Therefore, there would be no impact in regard to impeding or redirecting flood flows as a result of project development.

The project site is within the dam inundation zones of both the Prado and Santiago Creek Dams. The Prado Dam is located about 21 miles northeast of the project site, and the Santiago Creek Dam is located 13 miles northeast of the site. As previously stated, the potential threat of a catastrophic failure of the Prado Dam has been reduced with the upstream construction of the Seven Oaks Dam. During a flood, the Seven Oaks Dam would store floodwaters destined for the Prado Dam for as long as the reservoir pool at the Prado Dam is rising. When the flood threat has passed, the Seven Oaks Dam would begin to release its floodwater at a rate that does not exceed the downstream channel capacity. Working in tandem, the Prado and Seven Oaks Dams provide increased flood protection to the County. Improvements to the Prado Dam are currently underway to increase the dam's capacity, and the Santa Ana River Mainstream Project is almost complete, which increases the channel capacity of the river, further reducing the potential for flooding.

The latest available dam inundation map for the Prado Dam was produced in 1985 by the U.S. Army Corps of Engineers. It was prepared prior to dam improvements, construction of the Seven Oaks Dam, and increase in the Santa Ana River flow capacity. As a result, this map overestimates the dam inundation area and potential for flooding. According to the dam inundation map, the peak outflow of the hypothetical flood wave would reach the site in about 15 hours, which would allow sufficient time to implement emergency provisions and public safety measures, as specified in the General Plan Safety Element.

The Santiago Creek Dam is approximately 13 miles northeast of the project site, and the dam inundation map was produced by the Irvine Ranch Water District in 1973. According to the map, the arrival time of a flood wave at the site would be approximately 11 hours, which also would be adequate time to implement evacuation procedures for affected residents and occupants at the site in accordance with the City's Emergency Operations Plan.

The probability of dam failure is extremely low, and the City has never been impacted by a major dam failure. The National Dam Safety Act of 2006 authorized a program to reduce the risks to life and property from dam failure by establishing a safety and maintenance program. The program requires regular inspection of dams to reduce the risks associated with dam facilities. Furthermore, all dam operators are required to submit an evacuation plan for review and approval by the State Office of Emergency Services (OES). The evacuation plans have been prepared in accordance with the Federal Guidelines for Dam Safety. The evacuation plans identify modes of dam failure, map inundation areas, classify hazard potential within inundation areas, determine available time for response under slow, rapid, or instantaneous failure scenarios, and establish notification procedures.

The proposed project would not exacerbate an existing flood hazard related to dam failure. Due to the length of time required for released water to reach the site if the Prado Dam or the Santiago Creek Dam were to

catastrophically fail, as well as the implementation of the City's Emergency Operations Plan, the proposed project would not expose people or structures to a significant risk, and the construction of the project would not impede or redirect flood flows. Continued inspection and maintenance of the two dams and the procedures outlined in the Emergency Operations Plan are considered adequate precautions to reduce impacts due to potential dam inundation to less than significant. Therefore, the proposed project would not impede or redirect flood flows, and impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-6: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. [Threshold HYD-5]

Impact Analysis:

The project site is located in the Santa Ana River Watershed. The Basin Plan was last updated in 2016 and gives direction on the beneficial uses of the State waters in Region 8; describes the water quality that must be maintained to support such uses; and provides programs, projects, and other actions necessary to achieve the standards in the Basin Plan.

As discussed under Impact 5.8-1, development of the proposed project's SWPPP and WQMP and implementation of the requirements of the NPDES General Construction Permit and MS4 Permit would ensure compliance with the objectives and standards of the Basin Plan (see PPP HYD-1 and PPP HYD-2). Therefore, the proposed project would not conflict or obstruct implementation of the Basin Plan, and impacts would be less than significant.

The project site is also within the jurisdiction of the OCWD GMP. As discussed under Impact 5.8-2, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. Therefore, the proposed project would not conflict or obstruct the groundwater management plan, and impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.8.5 Cumulative Impacts

For the purposes of hydrology and water quality, cumulative impacts are considered for cumulative projects located within the same watershed as the proposed project (Santa Ana River Watershed). All projects identified in Table 4-2, *Related Projects*, are located within the Santa Ana River Watershed and, thus, have the potential to interact with the proposed project to the extent that a cumulative effect may occur.

Impact 5.8-7 Development of the proposed project and related projects would not result in cumulatively considerable impacts to water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. [Threshold HYD-1]

Impact Analysis:

Like the proposed project, the related projects identified in Table 4-2, as well as existing and planned developed within the Santa Ana River Watershed, could result in cumulatively considerable impacts to water quality due to construction activities and increases in post-development runoff. All construction projects that disturb one or more acres of land are subject to the NPDES General Construction Permit requirements for implementation of individual SWPPPs, which outline erosion control, sediment control, wind erosion control, tracking control, non-stormwater management and waste management BMPs (see PPP HYD-1). Additionally, new development and redevelopment projects are required to prepare and implement WQMPs and implement LID BMPs requiring specified amounts of runoff be infiltrated, evapotranspired, harvested and reused, or treated (see PPP HYD-2). Implementation of such BMPs would reduce the amount of runoff entering public storm drain systems. Thus, pollutants generated within the project and cumulative projects within the Basin would be mitigated during construction activities and project operation. Compliance with the Santa Ana RWQCB's requirements for waste discharge requirements and water quality certifications would also prevent long-term water quality impacts.

As discussed under Impact 5.8-1, the proposed project's impact to water quality during construction activities would be less than significant with implementation of the SWPPP and BMPs during all construction activities and compliance with the City's erosion and sediment control requirements (see PPP HYD-1). Compliance with Order No. 2003-0003-DWQ/Order No. R8-2015-0004, NPDES No. CAG998001 requirements would ensure project construction dewatering would not cause State waste discharge and Federal NPDES permit requirements to be exceeded. PPP HYD-5 would ensure project dewatering would comply with the Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (Order No. 2003-0003-DWQ) or the De Minimis Waste Discharge Requirements for the Santa Ana Region (Order No. R8-2015-0004, NPDES No. CAG998001), as required. Further, the project would be subject to compliance with SCA HYD-1 through SCA HYD-3, which would ensure construction BMPs are implemented to mitigate potential impacts to water quality. To reduce operational impacts to water quality, the project would be subject to compliance with the project recommendations outlined in the Preliminary WQMP and prepare a Final WQMP prior to the issuance of a grading permit (see PPP HYD-2 and PPP HYD-3). Following conformance with NPDES and Santa Ana RWQCB requirements, the project would not result in cumulatively considerable impacts to water quality or surface or groundwater quality. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-8 **Development of the proposed project and related projects would not result in cumulatively considerable impacts to groundwater supplies or interfere substantially with groundwater recharge such that sustainable groundwater management of the basin is impeded. [Thresholds HYD-2]**

Impact Analysis:

Cumulative development could result in changes to the amounts of impervious surfaces on each respective development site. According to the OCWD GMP, the majority of the OC Basin area is highly urbanized. The related projects identified in Table 4-2 are considered infill development, and it is not anticipated that buildout of these projects would substantially impact recharge of the OC Basin. Individual development projects would be required to mitigate drainage conditions through conformance with applicable local, State, and Federal regulatory requirements, as well as project-specific mitigation. Cumulative development located within MWD's water service area would also lead to an increased demand in water, and, therefore, would lead to an increase in groundwater pumping. Individual projects would be evaluated on a case-by-case basis to ensure adequate groundwater supply is available.

The proposed project, combined with related development, could result in changes to the amounts of impervious surfaces within the project area and/or lead to an increase in groundwater pumping. As discussed under Impact 5.8-2, the project site is not located within a groundwater recharge area, and no groundwater extraction would occur as part of the project. Further, the project would generally involve comparable amounts of impervious surfaces as compared to existing conditions, with only a slight increase in impervious surfaces overall (a net increase of 0.4 acre). Although dewatering of perched groundwater may be required during project construction (see PPP HYD-5), the project would not result in any groundwater extraction or depletion of groundwater supplies and is not anticipated to interfere with the OCWD GMP. Therefore, the project would not result in cumulatively considerable impacts to groundwater supplies and groundwater recharge. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-9 **Development of the proposed project and related projects would not result in cumulatively considerable impacts related to substantially altering 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 a substantial erosion or siltation on- or off-site. [Thresholds HYD-3 (i) and HYD-3(iii)]**

Impact Analysis:

Project implementation, combined with related cumulative projects, would incrementally change regional drainage patterns and would increase potential for impacts related to erosion or siltation. As discussed, the majority of the watershed area is highly urbanized, and the projects identified in Table 4-2 are considered infill development. As a result, cumulative development is not anticipated to substantially alter the drainage pattern of the site or area in a manner which would result in substantial soil erosion or siltation on- or off-site. Cumulative development projects would be required to mitigate impacts related to erosion or siltation through

conformance with applicable local, State, and Federal regulatory requirements, as well as project-specific mitigation, as required.

As discussed under Impact 5.8-3, although the percentage of impervious surfaces would increase slightly with the proposed project, the peak flow rates for the 25- and 10-year storms would be approximately 16 to 17 percent less for the proposed project as compared to existing conditions. The proposed project would not substantially alter the existing drainage pattern of the site and does not involve the alteration of any natural drainage channels, streams, or rivers. Additionally, the project's proposed MWS would decrease surface runoff compared to existing conditions. Collectively, implementation of the BMPs outlined in the SWPPP, implementation of the erosion and sediment control plan, and the project's proposed landscaping and water quality design features would address the anticipated and expected erosion and siltation impacts during the construction and operational phases of the proposed project (see PPP HYD-1 through PPP HYD-4, PPP HYD-6, and SCA HYD-1 through SCA HYD-3). As a result, the proposed project would not result in cumulatively considerable impacts concerning substantial erosion or siltation on- or off-site. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-10 Development of the proposed project and related projects would not result in cumulatively considerable impacts related to substantially increasing the rate or amount of surface runoff and result in flooding on- or off-site. [Threshold HYD-3 (ii)]

Impact Analysis:

Project implementation, combined with related cumulative projects, would incrementally change regional drainage patterns. However, the cumulative developments identified in Table 4-2 are considered infill development, and it is not anticipated their implementation would substantially alter the drainage pattern of the site or area in a manner which would result in flooding on- or off-site. Individual development projects would be required to mitigate impacts related to flooding through conformance with applicable local, State, and Federal regulatory requirements, as well as project-specific mitigation.

The project would generally involve comparable amounts of impervious surfaces as compared to existing conditions, with only a slight increase in impervious surfaces overall. As discussed under Impact 5.8-4, peak flows to the storm drain system would decrease with installation of the biotreatment areas throughout the site that are designed to temporarily retain stormwater runoff prior to discharge to the storm drain system. As a result, the project would not result in cumulatively considerable impacts concerning flooding on- or off-site.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-11 Development of the proposed project and related projects would not result in cumulatively considerable impacts related to impeding or redirecting flood flows. [Threshold HYD-3 (iv)]

Impact Analysis:

Project implementation, combined with related cumulative projects, would incrementally change regional drainage patterns. Based on the FEMA Flood Map Service Center, cumulative projects identified in Table 4-2 are not located within a mapped flood hazard area (FEMA 2019). These projects are considered infill development, and it is not anticipated that their implementation would substantially alter the drainage pattern of the site or area in a manner which would impede or redirect flood flows. Individual development projects would be required to mitigate impacts related to flood flows through conformance with applicable local, State, and Federal regulatory requirements, as well as project-specific mitigation. Further, impacts related to dam failure would be assessed at the project-level and are not anticipated to result in cumulatively considerable impacts in this regard.

As discussed under Impact 5.8-5, the project site is not located within a mapped flood hazard area and would result in a minimal increase in impervious surfaces compared to existing conditions. The proposed project also would not exacerbate an existing flood hazard related to dam failure. Project implementation would not result in cumulatively considerable impacts concerning flood flows in this regard. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.8-12 Development of the proposed project and related projects would not result in cumulatively considerable impacts related to conflicting with or obstructing implementation of a water quality control plan or sustainable groundwater management plan. [Threshold HYD-5]

Impact Analysis:

Refer to the Impact 5.8-8 cumulative analysis, above, concerning the project's and cumulative development's potential to conflict with or obstruct implementation of the OCWD GMP. Cumulative development occurring within the jurisdiction of the Santa Ana RWQCB would be subject to all applicable water quality control plans, policies, and objectives identified in the Basin Plan. As discussed, cumulative development would be subject to NPDES requirements and the MS4 Permit to ensure compliance with the objectives and standards of the Basin Plan (see PPP HYD-1 and PPP HYD-2). As a result, related development would not result in cumulatively considerable impacts related to conflicting with or obstructing implementation of a water quality control plan or sustainable groundwater management plan.

As discussed above, development of the proposed project's SWPPP and WQMP and implementation of the requirements of the NPDES General Construction Permit and the MS4 Permit would ensure compliance with the objectives and standards of the Basin Plan (see PPP HYD-1 and PPP HYD-2). As a result, project implementation would not result in cumulatively considerable impacts related to conflicting with or obstructing implementation of a water quality control plan or sustainable groundwater management plan. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.8.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: Impacts 5.8-1 through 5.8-12.

5.8.7 Mitigation Measures

No mitigation measures are required.

5.8.8 Level of Significance After Mitigation

Impacts would be less than significant.

5. Environmental Analysis
HYDROLOGY AND WATER QUALITY

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Chapter 5.9 Land Use and Planning

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5.9 LAND USE AND PLANNING

This section of the Draft EIR evaluates the potential land use impacts from implementation of the proposed project. Land use impacts can be either direct or indirect. Direct impacts are those that result in land use incompatibilities, division of neighborhoods or communities, or interference with other land use plans, including habitat or wildlife conservation plans. This section focuses on direct land use impacts. Indirect impacts are secondary effects resulting from land use policy implementation, such as an increase in demand for public utilities or services or increased traffic on roadways. Indirect impacts are addressed in other sections of this Draft EIR.

The proposed project is evaluated in this section for its consistency with adopted regulating plans and programs, including the General Plan. The proposed project's consistency with other applicable regional plans and programs, such as the South Coast Air Quality Management District (SCAQMD) *2016 Air Quality Management Plan*, is addressed in Sections 5.2, *Air Quality*, and 5.6, *Greenhouse Gas Emissions*.

5.9.1 Environmental Setting

5.9.1.1 REGULATORY BACKGROUND

Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a regional council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties, which encompass over 38,000 square miles. SCAG is the Federally recognized metropolitan planning organization for this region and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under Federal and State law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the southern California region's metropolitan planning organization, SCAG cooperates with the SCAQMD, the California Department of Transportation (Caltrans), and other agencies in preparing regional planning documents. SCAG has developed regional plans to achieve specific regional objectives, as discussed below.

The proposed project is considered a project of "regionwide significance" pursuant to the criteria in SCAG's *Intergovernmental Review Procedures Handbook* (November 1995) and Section 15206 of the CEQA Guidelines. Therefore, this section addresses the proposed project's consistency with the applicable SCAG regional planning guidelines and policies.

Regional Transportation Plan/Sustainable Communities Strategy

On April 7, 2016, SCAG adopted the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS), a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS includes a strong commitment to reduce emissions

from transportation sources to comply with Senate Bill 375, improve public health, and meet the national ambient air quality standards. This long-range plan, required by the State and Federal government, is updated by SCAG every four years as demographic, economic, and policy circumstances change. The 2016 RTP/SCS is a living, evolving blueprint for the region's future (SCAG 2016).

Local

General Plan

The General Plan is the City's guiding document for long-range planning and policymaking. The General Plan was updated from its first adoption in 1957 and most recently amended in 2016. The current General Plan includes the following ten elements.

Land Use Element. The Land Use Element serves as the long-range planning guide for development in the City by indicating the location and extent of development to be allowed. The element guides land use planning in the City, which impacts various issues addressed in other elements of the General Plan. Accompanying the Land Use Element is the Land Use Map that identifies the distribution and location of land use types within the City.

Circulation Element. The Circulation Element establishes policies governing the system of roadways, intersections, bicycle paths, pedestrian ways, and other components of the circulations system, which collectively provide for the movement of persons and goods throughout Costa Mesa. This element includes goals, objectives, and policies that help the City make decisions regarding transportation improvements related to the expansion of bicycle and pedestrian travel capabilities, effective and efficient management of the established roadway system, enhancement of transit facilities, and implementation of "complete street" strategies.

Growth Management Element. The major goal of the Growth Management Element is to ensure that the planning, management, and implementation of traffic improvements and infrastructure meet the current and projected needs of the City. The Circulation and Land Use Elements provide most of the foundation for the Growth Management Element. The Circulation Element establishes the City's goals, objectives, and policies regarding the transportation network, while the Land Use Element establishes the City's goals, objectives, and policies regarding the use of property, foremost by ensuring that compatible relationships exist between properties that have physical, visual, or proximity relationships.

Housing Element. The Housing Element is a program extending from 2013 to 2021, unlike other General Plan elements that typically cover a minimum ten-year planning period. This Housing Element identifies strategies and programs that focus on: 1) conserving and improving existing affordable housing; 2) providing adequate housing sites; 3) assisting in the development of affordable housing; 4) removing governmental and other constraints to the housing development; and 5) promoting equal housing opportunities.

State law requires jurisdictions provide their fair share of regional housing needs. The State of California Department of Housing and Community Development (HCD) is mandated to determine the Statewide housing need. In cooperation with HCD, local governments and Councils of Governments (e.g., Southern

California Association of Governments [SCAG]) are charged with making a determination of the existing and projected housing needs as a share of the Statewide housing need of their city or region.

The Regional Housing Needs Assessment (RHNA) is an assessment process performed periodically as part of housing element and general plan updates at the local level. The RHNA quantifies the housing need by income group within each jurisdiction during specific planning periods. The *5th Cycle Final RHNA Allocation Plan* was adopted by the SCAG Regional Council on October 4, 2012 and covers the planning period from October 15, 2013 to October 15, 2021. The 6th RHNA cycle covers the housing element planning period from October 2021 through October 2029. The *Draft 6th Cycle RHNA Allocation Plan* is anticipated to be distributed in February 2020 with final adoption in October 2020. Housing elements for the 6th cycle RHNA are due to HCD in October 2021.

Conservation Element. The purpose of the Conservation Element is to preserve, protect, and replenish the limited natural resources in the City, including water, open space, and sensitive habitats. In addition, this element addresses the management of energy resources and opportunities to integrate sustainability considerations into City policies. The element establishes a policy framework that identifies areas in Costa Mesa with substantial natural resources that the City is committed to manage and prevent from waste, destruction, and neglect, and provides for programs aimed at resource conservation for the benefit of future generations.

Noise Element. The Noise Element identifies noise sources in Costa Mesa and defines strategies for reducing the negative impact of noise on the community. The element also identifies baseline and projected noise levels so that this information can guide future land use decisions in a manner that limit noises and its effect on the community.

Safety Element. The Safety Element identifies and evaluates public health and safety hazards and provides measures that can reduce unreasonable risks and minimize potential losses in the event of natural or human-caused disasters. The element also addresses emergency preparedness and coordinated response, police and fire protection, and emergency services.

Community Design Element. The Community Design Element promotes quality design for every aspect of a community, such as buildings, structures, paths, corridors, districts, nodes, landmarks, natural features, and significant landscaping. It ensures each development in the private or public realm enhances the sense of place for the City, district, and the site itself. The goals, objectives, and policies in this element aim to express the City's parameters for quality design and development.

Open Space and Recreation Element. The purpose of the Open Space and Recreation Element is to sustain the City's network of open space and recreation resources. The goals, policies, and objectives contained in this element aim to protect, maintain, and enhance open spaces for all purposes and to meet recreation needs. This element also describes how Costa Mesa can promote the City's identity as a "City of the Arts."

Historical and Cultural Resources Element. Costa Mesa's historical and cultural resources provide an important connection to the past, while shaping the community's identity and direction for the future. To foster this connection, the Historical and Cultural Resources Element provides the regulatory framework for identifying, maintaining, and restoring the City's historical and cultural resources.

Municipal Code

Title 13 of the Municipal Code is the *Costa Mesa Zoning Ordinance* (Zoning Ordinance). The Zoning Ordinance and associated Zoning Map act as implementation tools for the General Plan Land Use Element. Both the Zoning Ordinance and Zoning Map work together by designating specific zoning districts within the City and establishing each district's allowed intensities and development standards.

5.9.1.2 EXISTING CONDITIONS

On-site Land Uses

The 15.23-acre[1] project site location at 1683 Sunflower Avenue and is developed with an approximate 345,000-square foot industrial building currently occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dekra-Lite Industries. The site is also developed with two parking lots on the east and west sides of the existing industrial building and landscaped areas along the building and site perimeter. The site is accessible from two driveways along Sunflower Avenue.

Based on the General Plan Land Use Map, the project site is currently designated Industrial Park, which is intended for large districts that support a variety of industrial, office, or commercial uses. According to the Zoning Map, the site is zoned Industrial Park (MP), which is intended for large, concentrated industrial areas where spacious park-like environments are created.

Surrounding Land Uses

Surrounding land uses include industrial uses to the north, the South Coast Collection (SOCO) retail center to the east, I-405 (San Diego Freeway) to the south, and industrial and logistics uses to the west. The Santa Ana River and Santa Ana River Trail are located approximately 700 feet to the west of the project site.

According to the General Plan Land Use Map, all surrounding uses are designated Industrial Park. Based on the Zoning Map, industrial uses to the north are zoned MP and the industrial, logistics, and retail uses to the east and west are zoned Planned Development Industrial (PDI).

5.9.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

LU-1 Physically divide an established community.

LU-2 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.

[1] The entire project site is 15.6 acres; however, approximately 0.37 acres along the southwest site boundary would be dedicated for the I-405 Freeway expansion. Therefore, the proposed development would occur on the remaining 15.23 acres.

No impacts relating to Threshold LU-1 were identified, as substantiated in Chapter 8, *Impacts Found Not to Be Significant*. This threshold is not addressed in the following analysis.

5.9.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to land use and planning.

PPP LU-1 The proposed project would be designed and constructed as a Planned Development Residential-High Density (PDR-HD) in accordance with the applicable provisions of Municipal Code Section 13-20, *Zoning Districts*. As such, future development would be subject to the proposed One Metro West Specific Plan and Master Plan regulations. Where these documents are silent, the Municipal Code would prevail.

5.9.4 Environmental Impacts

5.9.4.1 METHODOLOGY

This analysis evaluates the proposed project's consistency with regional and local plans, policies, and regulations for the purposes of avoiding or mitigating an environmental effect. Specifically, the proposed project is analyzed with respect to applicable planning guidelines and strategies of the 2016 RTP/SCS, General Plan, and Zoning Ordinance.

5.9.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which there may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.9-1: Project implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. [Threshold LU-2]

Impact Analysis:

Project implementation would require the following discretionary approvals: General Plan Amendment, Zone Change, Specific Plan, Master Plan, Development Agreement, Tentative Tract Map, Tree Removal Permit, and Public Art Plan. An evaluation of the proposed project's consistency with applicable regional and local plans and programs that have been adopted for the purpose of avoiding or mitigating an environmental effect is provided below.

General Plan

According to the General Plan Land Use Map, the project site is designated Industrial Park, which allows for large areas dedicated to industrial, office, and commercial use. Implementation of the proposed project would require a General Plan Amendment to change the site's current land use designation from Industrial Park to

High Density Residential with a site-specific base density of 80 dwelling units per acre and a site-specific maximum building height of seven stories.

Project consistency with applicable General Plan goals and policies is detailed in Table 5.9-1, *Project Consistency with General Plan*. Although the General Plan contains numerous goals and policies beyond those discussed in Table 5.9-1, those goals and policies are not closely related to the "purpose of avoiding or mitigating an environmental effect" and are therefore not analyzed. As analyzed, the project would be consistent with all applicable General Plan goals and policies with the exception of Policies LU-1.3, C-3.1, C-3.8, and GM-2.5. Overall, the project would be generally consistent with the General Plan.

Table 5.9-1 Project Consistency with General Plan

Applicable General Plan Goal and Policies	Consistency Analysis
Land Use Element	
Land Use Goal LU-1: A Balanced Community with a Mix of Land Uses to Meet Resident and Business Needs	
Policy LU-1.1: Provide for the development of a mix and balance of housing opportunities, commercial goods and services, and employment opportunities in consideration of the needs of the business and residential segments of the community.	**Consistent:** The proposed project is a mixed-use community that consists of residential, specialty retail, creative office, and open space uses. The vision of the project is to create a mixed-use community with housing near employment centers in a master planned setting with on-site amenities, a 1.5-acre open space area, and pedestrian and bicycle connections to the Santa Ana River Trail. Thus, the project would develop a mix and balance of housing, commercial, and employment opportunities in Costa Mesa.
Policy LU-1.3: Strongly encourage the development of residential uses and owner-occupied housing (single-family detached residences, condominiums, townhouses) where feasible to improve the balance between rental and ownership housing opportunities.	**Inconsistent:** While the proposed project would provide 1,057 multi-family residences, the residences are currently proposed as rental units. Therefore, the project would be inconsistent with this policy and the City's goal to improve the balance between rental and ownership housing opportunities.
Land Use Goal LU-2: Preserve and Protect Residential Neighborhoods	
Policy LU-2.7: Permit the construction of buildings over two stories or 30 feet only when it can be shown that the construction of such structures will not adversely impact surrounding developments and deprive existing land uses of adequate light, air, privacy, and solar access.	**Consistent:** The proposed buildings would have a maximum height of seven stories (ranging from 78 to 98 feet). Surrounding land uses include industrial uses to the north, SOCO to the east, I-405 to the south, and industrial and logistics uses to the west. The locations of the proposed buildings on-site would not result in light, air, privacy, or solar access issues to existing uses in the project vicinity. More specifically, Building A (up to 78 feet) and the creative office building (three stories [52 feet] in height) would be adjacent to I-405; Building B would be located in the center of the site and physically separated from adjacent uses by Sunflower Avenue, and Building C would be adjacent to the back of commercial buildings associated with the SOCO retail center. The closest residences to the project site are approximately 300 feet to the south of the I-405 Freeway. The nearest project feature to these residences would be the parking structure facade for Building A and the three story office building. Further, screening features are proposed along the Building A facade. Therefore, the project would not impact the lighting, air, or privacy of surrounding uses. Additionally, the project's shade and shadow impacts was evaluated in Section 5.1, *Aesthetics*. As concluded, the project would not result in significant shade/shadow impacts to off-site uses during summer/winter solstice and vernal/autumnal equinox, including the residences to the south and the adjacent SOCO retail center; refer to Figure 5.1-2, *Proposed Shade/Shadow Patterns – Summer Solstice*, through Figure 5.1-5, *Proposed Shade/Shadow Patterns – Vernal Equinox*. Thus, the project would not impact solar access.

Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Land Use Goal LU-3: Development that Maintains Neighborhood Integrity and Character	
Policy LU-3.5: Provide opportunities for the development of well-planned and designed projects which, through vertical or horizontal integration, provide for the development of compatible residential, commercial, industrial, institutional, or public uses/ within a single project or neighborhood.	**Consistent:** The proposed mixed-use development would include residential, commercial, office, and open space components within a single project.
Policy LU-3.8: Ensure that new development reflects existing design standards, qualities, and features that are in context with nearby development and surrounding residential neighborhoods. **Policy LU-3.12:** Ensure that new development reflects existing design standards, qualities, and features that are in context with nearby development.	**Consistent:** As detailed in Section 5.1, the project is intended to create an attractive, well-designed mixed-use project with a high level of design articulation, landscaping, and streetscape. Provisions of the proposed project, including the Development Regulations, Design Guidelines, street improvements, lighting plan, and community connectivity would ensure that design details of the proposed project are context-sensitive and of high quality (PPP AES-2). The proposed architectural design and visual character of the mixed-use community are intended to complement the design of the nearby SOCO retail center.
Land Use Goal LU-4: New development that is sensitive to Costa Mesa's Environmental Resources.	
Policy LU-4.1: Ensure that appropriate watershed protection activities are applied to all new development and significant redevelopment projects that are subject to the National Pollutant Discharge Elimination System Stormwater Permit during the planning, project review, and permitting processes.	**Consistent:** In compliance with the National Pollutant Discharge Elimination System (NPDES) and PPP HYD-1, the project is required to comply with the City's municipal storm sewer system (MS4) permit and is required to develop a Stormwater Pollution Prevention Plan (SWPPP). The project is also required to implement best management practices (BMPs) for soil erosion and sediment control (PPP HYD-6). Refer to Section 5.8, *Hydrology and Water Quality*, for additional analysis on project impacts to hydrology and water quality.
Policy LU-4.5: Promote integration of stormwater quality protection into construction and post-construction activities, as required by the NPDES Stormwater Permit and the City's Local Implementation Plan.	**Consistent:** As discussed in Section 5.8, the project is required to comply with the NPDES Stormwater Permit and the City's Local Implementation Plan, which includes low impact development measures, site design, and source control BMPs to ensure that post-project water quality impacts would be less than significant.
Policy LU-4.6: Incorporate the principles of sustainability into land use planning, infrastructure, and development processes to reduce greenhouse gas emissions consistent with State goals.	**Consistent:** As discussed in Section 5.6, *Greenhouse Gas Emissions*, the proposed project would result in significant and unavoidable impacts related to greenhouse gas emissions primarily due to mobile emissions (i.e., increase in vehicular trips). However, the project would incorporate principles of sustainability that contribute towards the reduction of greenhouse gas emissions and comply with State-mandated goals. The project would be required to comply with the latest California Green Building Standards Code (CALGreen; CCR, Title 24, Part 11), which requires solar ready rooftops, increased insulation, low flow fixtures, and energy efficient appliances, among others (PPP EN-1). The proposed project would include installation of electric vehicle charging stations in non-residential and residential buildings (PPP EN-5). Preferential parking for low-emitting, fuel-efficient, and carpool/car share/van vehicles would be included in all parking areas. In addition, the project would promote environmentally sustainable development principles by providing a mix of land uses close to employment centers.

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Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Land Use Goal LU-5: Adequate Community Services, Transportation System, and Infrastructure to Meet Growth	
Policy LU-5.5: Ensure that new development pays its fair share of impact fees such as park fees and traffic impact fees. This can also include impact fees related to community services (police protection services and fire emergency response services) or library facilities, once adopted and applicable.	**Consistent:** As part of the plan check process, the City would ensure the project applicant pays its fair share of development impact fees applicable to the proposed project, including park, traffic, polices, fire, and library fees.
Policy LU-5.7: Encourage new development that is organized around compact, walkable, mixed-use neighborhoods and districts to conserve open space resources, minimize infrastructure costs, and reduce reliance on the automobile.	**Consistent:** The project is a mixed-use development and would incorporate walkable spaces between the residential, commercial, and office buildings. The project is also in the vicinity of other employment centers such as SOCO and The OC Mix.
Policy LU-5.8: Include an evaluation of impacts on utility systems and infrastructure in EIRs for all major general plan amendment, rezone, and development applications.	**Consistent:** Section 5.15, *Utilities and Service Systems*, includes an evaluation of project impacts on utility services and infrastructure, including water, wastewater, and solid waste.
Policy LU-5.12: Development plans shall include an overall buildout plan, which can demonstrate the ability of the circulation system to support the proposed level of development.	**Consistent:** An analysis of the proposed project's impacts on transportation and circulation in the project vicinity is included in Section 5.13. A Traffic Impact Analysis is prepared for the project to evaluate the ability of the existing circulation system to support the proposed level of development; refer to Appendix M, *Traffic Impact Analysis*. As detailed, the project would be required to implement mitigation measures to reduce impacts to several roadway intersections and freeway segments and ramps to the extent reasonable and feasible. Notwithstanding, impacts would remain significant and unavoidable after implementation of required mitigation. Nonetheless, the Traffic Impact Analysis was prepared, considering full buildout of the proposed project, in order to demonstrate the circulation systems ability to support the proposed project.
Land Use Goal LU-6: Economically Viable and Productive Land Uses that Increase the City's Tax Base	
Policy LU-6.10: Encourage a broad range of business uses that provide employment at all income levels and that make a positive contribution to the City's tax base.	**Consistent:** Redevelopment of the project site would result in the loss of industrially-zoned land and therefore, manufacturing jobs. However, as a mixed-use development, the project would provide employment opportunities associated with future tenants of the commercial retail and creative office spaces. The new retail and office uses would also be coupled with housing provided in close proximity to employment centers in a jobs rich area of the Costa Mesa. Further, as detailed in Table 3-2, *Permitted and Conditionally Permitted Uses*, the project would allow a number of general office/professional office and commercial uses to provide employment at all income levels.
Policy LU-6.19: Provide flexibility and support for development of residential, office, small retail centers, and similar uses that would serve local residents and would also benefit from the high visibility along major corridors outside of significant commercial or industrial nodes.	**Consistent:** The project would include a mix of residential, office, and retail uses within a site that is located adjacent to major corridors (e.g., I-405 and Sunflower Avenue). The project would also serve local residents as future housing, retail, and employment opportunities.

Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Circulation Element	
Circulation Goal C-1: Implement "Complete Streets" Policies on Roadways in Costa Mesa. Plan, develop, and implement a comprehensive transportation system that serves all users and modes of travel.	
Policy C-1.5: Implement road diets on street segments with excess capacity to enhance bicycle and pedestrian facilities.	**Consistent:** The proposed project would enhance bikeways and walkways on Sunflower Avenue and would upgrade the existing bicycle path that connects to the Santa Ana Regional Trail system. The proposed improvements would along Sunflower Avenue would require a road diet along Sunflower Avenue to enhance bicycle and pedestrian facilities.
Circulation Goal C-3: Enhance Regional Mobility and Coordination. Encourage development of a regional transportation network that addresses regional mobility needs for all modes of travel.	
Policy C-3.1: Maintain compliance with Orange County Congestion Management Plan (CMP) requirements, including consistency with CMP level of service standards, adoption of a seven-year capital improvement program, analysis of impacts of land use decisions on the CMP highway system, and adoption and implementation of deficiency plans when intersections do not meet adopted performance standards.	**Inconsistent:** As detailed in Section 5.13, project-generated impacts on the level of service of study area intersections was analyzed and would result in potentially significant impacts. Mitigation Measures TR-1 and TR-2 would be required to reduce such impacts; however, several impacts would remain significant and unavoidable as right-of-way constraints limit the feasibility of mitigation. Thus, the project would not be consistent with Policy C-3.1.
Policy C-3.3: Support the goals and objectives of the SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), including expansion of transportation system choices, improvement of transportation system performance, and sustainability of transportation infrastructure.	**Consistent:** Table 5.9-2, *Project Consistency with 2016 RTP/SCS Goals*, provides an assessment of the proposed project's relationship to pertinent 2016 RTP/SCS goals. As demonstrated, the proposed project is consistent with the goals identified in the 2016 RTP/SCS.
Policy C-3.8: Coordinate with adjacent jurisdictions to maintain or improve mobility within the City to achieve a standard Level of Service no worse than "D" at all intersections under State or joint control. Intersection Level of Service analyses for General Plan conditions for locations under State or joint control will be updated periodically and presented to the City Council.	**Inconsistent:** Refer to response to Policy C-3.1. Additionally, the project would result in potentially significant impacts to several freeway mainline and ramps. To mitigate the impacts at the identified locations, freeway mainline and/or freeway ramp widening would be required. However, this type of infrastructure is extremely costly and is typically infeasible for one development project to undertake. The City also cannot assure the construction of improvements to freeway facilities that are under the jurisdiction of another agency (i.e., Caltrans).
Circulation Goal C-5: Ensure coordination between the Land Use and Circulation Systems. Facilitate close coordination between development of land use and circulation system.	
Policy C-5.2: Require that large developments and redevelopments provide short-term and long-term vehicular traffic impact studies.	**Consistent:** A project-specific traffic impact analysis was conducted for the proposed development; refer to Appendix M, *Traffic Impact Analysis*.
Policy C-5.3: Encourage permitted General Plan land uses which generate high traffic volumes to be located near major transit and transportation corridors to minimize vehicle use, congestion, and delay.	**Consistent:** The proposed mixed-use development would be located near major transit and transportation corridors, such as Harbor Boulevard and MacArthur Boulevard. The closest bus stops to the project site are located at the intersections of Harbor Boulevard/ Sunflower Avenue, approximately 0.5-mile east of the project site, and Scenic Avenue/Hyland, approximately 0.5-mile north of the project site. Orange County Transportation Authority (OCTA) bus lines 794 (express bus), 211, and 43 have stops at the intersection of Harbor Boulevard/Sunflower Avenue, and OCTA bus line 794 (express bus) serves the Scenic Avenue/Hyland Avenue stop. Additionally, the OCTA Santa Ana Bus Base is located at the intersection of Hyland Avenue and MacArthur Boulevard, approximately one mile from the project site.

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Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Policy C-5.5: Promote development of mixed-use projects to reduce number of vehicle trips.	**Consistent:** The proposed project is a mixed-use development consisting of residential, retail, creative office, and open space uses.
Policy C-5.6: Coordinate the design and improvement of pedestrian and bicycle ways in major residential, shopping and employment centers, parks, schools, other public facilities, public transportation facilities, and bicycle networks with adjacent cities.	**Consistent:** The project would include off-site pedestrian and bicyclist improvements along Sunflower Avenue, including upgraded sidewalks and protected bicycle lanes to improve pedestrian and bicycle access to the regional Santa Ana River Trail system. Additionally, the project would implement trail improvements from the project's western boundary to the existing Santa Ana River Trail, including trail resurfacing and landscaping.
Policy C-5.9: Require that circulation necessary to provide or attain the minimum traffic level of service standard at an intersection to which a development project contributes measurable traffic be completed within three years of issuance of the first building permit for such development project, unless additional right-of-way or coordination with other government agencies is required to complete the improvement. Improvements may be required sooner if, because of extraordinary traffic generation characteristics of the project or extraordinary impacts to the surrounding circulation system, such improvements are necessary to prevent significant adverse impacts.	**Consistent:** As detailed in Section 5.13, the project is required to implement Mitigation Measures TR-1 and TR-2, which require payment of fair share fees to of improve the intersections of Susan Street/South Coast Drive (Study Intersection No. 18) and Talbert Avenue/Mt. Washington Street (Study Intersection No. 28). Payment of the fair share fees is required prior to issuance of the first building permit. Once the full cost of the proposed improvements is collected by the City, the City would implement the required improvements.
Policy C-5.13: Require that new development projects improve access to and accommodations for multimodal transportation.	**Consistent:** Refer to response to Policy C-5.6.
Policy C-5.15: Consider the needs of the transportation and infrastructure system early for large developments and coordinate with developers to design projects that minimize traffic impacts and infrastructure demands, and implement complete streets wherever feasible. Alternatively, address transportation and infrastructure system impacts through the implementation of development agreements.	**Consistent:** The project's transportation impacts are analyzed and mitigated, where feasible, in Section 5.13. Mitigation Measures TR-1 and TR-2, PPP T-1, PPP T-2, and SCA T-1 would be implemented as part of the project's Development Agreement.
Growth Management Element	
Growth Management Goal GM-1: Inter-jurisdictional Coordination	
Policy GM-1.5: Continue to require that any new large developments prepare a master plan and environmental impact analysis. This allows the City to anticipate the impacts of large projects prior to development of any portion and permits more time to plan for public services and facilities needed to support the project.	**Consistent:** The proposed project would require discretionary approval of a Master Plan, which is evaluated as part of this Draft EIR.
Policy GM-2.4: Support uses and development which create synergistic relationships with neighboring uses and development, especially those whose addition does not create mutually exclusive additional vehicular trips but adds to the value of the destination by any potential visitor.	**Consistent:** The proposed mixed-use development is located in the vicinity of the SOCO and The OC Mix retail centers and industrial developments. Future residents, employees, and visitors of the project site could also visit SOCO and The OC Mix, creating a synergistic relationship between the neighboring uses.

Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Policy GM-2.5: Support creative and flexible solutions that provide for additional economic or physical growth within the City but does not place greater impact on the circulation system. These would include shared parking agreements, offset hours of operation, and clustering of harmonious and supportive uses.	**Inconsistent:** The project involves developing residential, commercial, office, and open space on-site. As detailed in Section 5.13, the project results in significant and unavoidable transportation impacts to roadway intersections and freeway mainlines and ramps and thus, places a greater burden on the City's existing circulation system. However, parking for all proposed uses would be provided on-site with overflow parking available along the southern side of Sunflower Avenue. Parking provided in Building A would also include shared office/residential parking spaces. Thus, the project would cluster compatible uses within one mixed-use community. Nevertheless, since the project results in significant and unavoidable transportation impacts, the project would be inconsistent with Policy GM-2.5.
Housing Element	
Housing Goal HOU-3: Provision of Adequate Sites	
HOU-3.1: Encourage the conversion of existing marginal or vacant motels, commercial, and/or industrial land to residential, where feasible and consistent with environmental conditions that are suitable for new residential development.	**Consistent:** The project site is currently developed with one industrial building and associated parking and landscaped areas. The project would convert the industrial use into a mixed-use community that includes a residential component with up to 1,057 multi-family rental units, including affordable housing.
HOU-3.2: Provide opportunities for the development of well-planned and designed projects which, through vertical or horizontal integration, provide for the development of compatible residential, commercial, industrial, institutional, or public uses within a single project or neighborhood.	**Consistent:** The proposed mixed-use development would be a master planned community and include residential, commercial, office, and open space components within a single project site.
Conservation Element	
Conservation Goal CON-1: Preserve and Restored Natural Coastal Habitat and Landforms	
Policy CON-1.A.6: Minimize soil depletion and erosion in development projects. Prevent erosion caused by construction activities, and encourage preservation of natural vegetation and topography.	**Consistent:** Refer to response to Policy LU-4.1 above.
Policy CON-1.A.7: Improve access to large-scale natural areas in the City. These areas should be open for controlled access to improve public enjoyment. Access should be limited where natural habitat is extremely sensitive. Work with transit agencies to improve connections and access to open space and recreation facilities from all Costa Mesa neighborhoods.	**Consistent:** The project would include off-site pedestrian and bicyclist improvements along Sunflower Avenue, including upgraded sidewalks and protected bicycle lanes to improve pedestrian and bicycle access to the regional Santa Ana River Trail system. Additionally, the project would implement trail improvements from the project's western boundary to the existing Santa Ana River Trail, including trail resurfacing and landscaping. The proposed improvements are not located in areas with extreme natural habitat sensitivity.
Conservation Goal CON-2: Conserved Natural Resources Through Environmental Sustainability	
Policy CON-2.A.1: Promote efficient use of energy and conservation of available resources in the design, construction, maintenance, and operation of public and private facilities, infrastructure, and equipment. **Policy CON-2.A.2:** Consult with regional agencies and utility companies to pursue energy efficiency goals. Expand renewable energy strategies to reach zero net energy for both residential and commercial new construction.	**Consistent: T**he project would be required to comply with PPP EN-1 through PPP EN-5. These existing regulations would require the proposed project to meet 2019 California Building Energy and Efficiency (Title 24) Standards and 2019 CALGreen Standards; implement a landscaping palette that emphasizes drought-tolerant plants and water-efficient irrigation techniques; reducing water demand by installed certified plumbing fixtures; and recycle/reuse at least 50 percent of construction materials. The project would also encourage sustainable design features to conserve energy and reduce greenhouse gas emissions, including, but not limited to:

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Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Policy CON-2.A.4: Encourage new development to take advantage of Costa Mesa's optimal climate in the warming and cooling of buildings, including use of heating, ventilation and air conditioning (HVAC) systems. **Policy CON-2.A.5:** Promote environmentally sustainable development principles for buildings, master planned communities, neighborhoods, and infrastructure. **Policy CON-2.A.6:** Encourage construction and building development practices that reduce resource expenditures throughout the lifecycle of a structure.	▪ Limiting landscape irrigation when possible and incorporating drought-tolerant plant species and non-potable water sources; ▪ Installing green roofs, using alternative paving materials, and providing tree canopy shading; ▪ Installing solar ready rooftops; ▪ Utilizing recycled and reclaimed materials for surface parking areas, sidewalks, unit paving, and curbs; ▪ Incorporating permeable paving, low-glare and low-heat intensive surfaces; and ▪ Promoting stormwater retention through capture and harvest for re-use in landscaped areas.
Policy CON-2.A.9: Encourage waste management programs that promote waste reduction and recycling to minimize materials sent to landfills. Maintain robust programs encourage residents and businesses to reduce, reuse, recycle, and compost. **Policy CON-2.A.10:** Support waste management practices that provide recycling programs. Promote organic recycling, landfill diversion, zero waste goals, proper hazardous waste collections, composting, and the continuance of recycling centers. **Policy CON-2.A.11:** Continue construction and demolition programs that require recycling and minimize waste in haul trips.	**Consistent:** The proposed project would be required to abide by City and State waste collection and recycling mandates and legislation including the: ▪ Municipal Code Chapter IV, *Garbage, Rubbish and Weeds* (PPP USS-8); ▪ Integrated Waste Management Act of 1989; ▪ Assembly Bill (AB) 939, State law to recycle at least 50 percent of all trash generated; ▪ AB 341, Mandatory Commercial and Multi-Family recycling (PPP USS-9); and ▪ AB 1826, Mandatory Organics Commercial and Multi-Family Recycling (PPP USS-9).
Conservation Goal CON-3: Improve Water Supply and Quality	
Policy CON-3.A.2: Encourage residents, public facilities, businesses, and industry to minimize water consumption, especially during drought years.	**Consistent:** Sustainable water design features and operational programs would be incorporated into the proposed project, including those required by CALGreen (PPP EN-1). Landscaping would be required to comply with the City's Landscape Water Conservation Ordinance. Water conservation techniques detailed in the Specific Plan that may be implemented include implementing comprehensive stormwater management that emphasizes retaining on-site through infiltration and evapotranspiration; promoting retention of stormwater through capture and harvesting for re-use in landscaped areas in a low-flow irrigation system; showcasing sustainable features such as permeable, low-glare paving, drought tolerant landscaping, rain gardens, and fountains using reclaimed water in the open space area; installing sensor-operated faucets in public restrooms in the creative office building; utilizing dual flush or other toilets using less than 1.6 gallons per flush or latest requirements in the creative office building; and installing waterless urinals in non-residential buildings.
Policy CON-3.A.3: Restrict use of turf in new construction and landscape reinstallation that requires high irrigation demands, except for area parks and schools, and encourage the use of drought-tolerant landscaping.	**Consistent:** Project landscaping would be required to comply with the City's Landscape Water Conservation Ordinance. The project would also limit landscape irrigation when possible and incorporate drought-tolerant plant species, non-potable water sources, and weather-based smart irrigation controllers (PPP EN-2 and PPP EN-3).

Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Policy CON-3.A.5: Work with public and private property owners to reduce stormwater runoff in urban areas to protect water quality in storm drainage channels, the Santa Ana River, and other local water courses that lead to the Pacific Ocean. **Policy CON-3.A.8:** Require that all applicable development projects be reviewed with regards to requirements of both the on-site Water Quality Management Plan and State requirements for runoff and obtaining a Storm Water Pollution Prevention Plan (SWPPP) permit.	**Consistent:** Refer to response to Policy LU-4.1 above.
Conservation Goal CON-4: Improved Air Quality	
Policy CON-4.A.1: Support regional policies and efforts that improve air quality to protect human and environmental health, and minimize disproportionate impacts on sensitive population groups. **Policy CON-4.A.2:** Encourage businesses, industries and residents to reduce the impact of direct, indirect, and cumulative impacts of stationary and non-stationary pollution sources. **Policy CON-4.A.3:** Require that sensitive uses such as schools, childcare centers, parks and playgrounds, housing, and community gathering places are protected from adverse impacts of emissions.	**Consistent**: Project-related air quality impacts are addressed in Section 5.2, *Air Quality*. As detailed, operational air quality impacts would be less than significant, and the project would not result in adverse impacts to nearby sensitive uses. Additionally, project operations would not result in adverse impacts from stationary and mobile pollution sources. Last, it is acknowledged that the project would place new housing near existing and proposed emissions during operations. All new multi-family residential buildings would install two-inch Minimum Efficiency Reporting Value (MERV) 13 filters in accordance with CALGreen standards as detailed in the Specific Plan (PPP LU-1).
Policy CON-4.A.5: Encourage compact development, infill development, and a mix of uses that are in proximity to transit, pedestrian, and bicycling infrastructures. **Policy CON-4.A.6:** Enhance bicycling and walking infrastructure, and support public bus service, pursuant to the Circulation Element's goals, objectives, and policies.	**Consistent:** The proposed project would redevelop the project site from an industrial use to a residential mixed-use community within an employment center area. The proposed mix of land uses, including residential, creative office, specialty retail, and recreation, which would reduce the number of commuter trips between residences, employment centers, and services. The project would also enhance connectivity to the Santa Ana River Trail by implementing protected bicycle lanes along Sunflower Avenue, improving the trail connection, and creating an Active Transportation Hub near the proposed open space area that may include bicycle lockers, bicycle storage, and repair facilities. The proposed Sunflower Avenue improvements would also include landscaped medians and sidewalks to enhance walking infrastructure along the project frontage.
Policy CON-4.A.7: Encourage installation of renewable energy devices for businesses and facilities and strive to reduce communitywide energy consumption.	**Consistent:** The proposed project would construct solar ready rooftops and electric vehicle charging stations.
Noise Element	
Noise Goal N-1: Noise Hazards and Conditions. The City of Costa Mesa aims to protect residents, local workers, and property from injury, damage, or destruction from noise hazards and to work toward improved noise abatement.	
Policy N-1.5: Apply the standards contained in Title 24 of the California Code of Regulations as applicable to the construction of all new dwelling units.	**Consistent:** The project would be required to comply with all 2019 Title 24 Standards.

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Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Policy N-1.6: Discourage sensitive land uses from locating within the 65 CNEL noise contour of John Wayne Airport. Should it be deemed by the City as appropriate and/or necessary for a sensitive land use to locate in the 65 CNEL noise contour, ensure that appropriate interior noise levels are met and that minimal outdoor activities are allowed.	**Consistent:** Refer to response to Policy S-1.17. The project site is not located within the 65 CNEL noise contour of John Wayne Airport.
Noise Goal N-2: Noise and Land Use Compatibility. Integrate the known impacts of excessive noise on aspects of land use planning and siting of residential and non-residential projects.	
Policy N-2.1: Require the use of sound walls, berms, interior noise insulation, double-paned windows, and other noise mitigation measures, as appropriate, in the design of new residential or other new noise sensitive land uses that are adjacent to arterials, freeways, or adjacent to industrial or commercial uses.	**Consistent:** As analyzed in Section 5.10, *Noise*, project design is required to meet the noise standards included in the Specific Plan as well as 2019 Title 24 Standards.
Policy N-2.2: Require, as a part of the environmental review process, that full consideration be given to the existing and projected noise environment.	**Consistent:** The project's short-term construction and long-term operational noise impacts are fully analyzed in Section 5.10 and Appendix K, *Noise and Vibration Impact Analysis*.
Policy N-2.4: Require that all proposed projects are compatible with adopted noise/land use compatibility criteria	**Consistent:** Refer to response to Policy N-2.1.
Policy N-2.8: Require new mixed-use developments to site loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development and adjacent established residential development.	**Consistent:** The proposed residential units are designed within Buildings A, B, and C away from loading areas, parking lots/garages, driveways, trash enclosures, and mechanical equipment. As analyzed in Section 5.10, stationary and mobile sources associated with project operations would not exceed City-established interior or exterior noise standards.
Safety Element	
Safety Goal S-1: Risk Management of Natural and Human-Caused Disasters	
Policy S-1.7: Continue to implement the Seismic Hazard Mapping Act, which requires sites within liquefaction hazard areas to be investigated for liquefaction susceptibility prior to building construction or human occupancy. **Policy S-1.8:** Consider site soils conditions when reviewing projects in areas subject to liquefaction or slope instability.	**Consistent:** As detailed in Section 5.5, *Geology and Soils*, liquefaction analysis performed for the project site indicates that the alluvial soils below the historic high groundwater could be prone to liquefaction induced settlement during earthquake ground motion. However, future development associated with the project would be required to comply with the seismic design requirements detailed under the California Building Code (CBC) (PPP GEO-1). Furthermore, the project's Preliminary Geotechnical Investigation includes specific design recommendations that would reduce potential liquefaction settlement impacts during an earthquake event (PPP GEO-2). Adherence to the seismic design parameters included in the Preliminary Geotechnical Investigation and required by the CBC would be confirmed during plan check and building design review and impacts related to liquefaction hazards would be less than significant.
Policy S-1.11: Improve and maintain local storm drainage infrastructure in a manner that reduces flood hazards.	**Consistent:** As detailed in Section 5.8, the project is expected to generate less stormwater runoff than under existing conditions. Impervious areas on-site would slightly increase; however, modular wetlands would be installed on-site to temporarily retain stormwater runoff prior to discharge into the City's storm drain system, thereby reducing stormwater runoff compared to existing conditions.
Policy S-1.17: Utilize the John Wayne Airport Environs Land Use Plan (AELUP) as a planning resource for evaluation of land use compatibility and land use intensity in areas affected by airport operations. In particular, future land use	**Consistent:** As detailed in Section 5.7, *Hazards and Hazardous Materials*, the closest airport to the project site is the John Wayne Airport, located approximately 3.5 miles to the southeast. The project site is not located within the airport's Safety Compatibility Zones but is located within the AELUP

Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
decisions within the Safety/Runway Protection Zone will be evaluated in light of the risk to life and property associated with aircraft operations. **Policy S-1.18:** Comply with Federal Aviation Regulations (FAR) and the John Wayne AELUP requirements relative to Objects Affecting Navigable Airspace. **Policy S-1.19:** Use the Federal Aviation Regulations as a guideline to establish the ultimate height of structures as defined in FAR Part 77. **Policy S-1.20:** Minimize hazards to aeronautical operations by ensuring land uses do not emit excessive glare, light, steam, smoke, dust, or electronic interference in compliance with FAR regulations and the John Wayne AELUP.	Notification Area. The Airport Land Use Commission has adopted the Federal Aviation Regulation (FAR) Part 77 as the criteria for determining height restrictions in Orange County. FAR Part 77 requires notification to the Federal Aviation Administration (FAA) for any project that would be more than 200 feet in height above the ground level pursuant to FAR Part 77 Section 77.13. The project would involve construction of a mixed-use development with seven-story buildings (up to 98 feet in height). As such, the project would not exceed FAA's notification requirement of 200 feet and would not introduce a safety hazard associated with airport operations. Nevertheless, given that the project requires General Plan Amendments and Zone Change, the project requires a consistency determination from the Orange County Airport Land Use Commission (ALUC) to determine whether the project is consistent with the John Wayne Airport AELUP. As detailed in Section 3.5, *Intended Uses of the EIR*, the Orange County ALUC is identified as a responsible agency to provide a consistency determination. If the project is deemed inconsistent with the ALUC plan, a local government may override the ALUC decision by a two-thirds vote of its governing body, if it makes specific findings that the proposed action is consistent with the purposes stated in Section 21670(a)(2) of the Public Utilities Code: "to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards in areas around public airports to the extent that these areas are not already devoted to incompatible uses."
Safety Goal S-2: High Level of Police and Fire Services and Emergency Preparedness	
Policy S-2.6: Require that water supply systems for development are adequate to combat structural fires in terms of location and minimum required fire-flow pressures.	**Consistent:** The project's potential impacts to fire protection services, including water supply and fire flow pressures, is detailed in Section 5.12, *Public Services*. The project would be subject to several standard conditions of approval requiring the installation of on-site fire hydrants, fire extinguishers, smoke detectors, and fire sprinkler systems, and approval of final project plans by the Costa Mesa Fire & Rescue Department (CMFD) to ensure adequate emergency access, fire hydrant availability, and fire flow pressures (SCA FIRE-7 through SCA FIRE-10 and SCA FIRE-13 through SCA FIRE-17). Additionally, Mitigation Measure PS-2 requires additional fire protection features in excess of minimum code requirements to ensure the proposed Building A and associated parking garage design meet CMFD's fire apparatus access road and hose pull requirements.
Policy S-2.7: Require development to contribute its fair share toward funding the provision of appropriate fire and emergency medical services as determined necessary to adequately serve the project.	**Consistent:** As detailed in Section 5.12, the project would be required to pay its fair share of development impact fees related to fire and emergency medical services. PPP FS-3 requires the applicant to pay development impact fees established based on the Costa Mesa Fire Protection System Fee Study and as required in the Development Agreement.
Policy S-2.16: Require the safe production, transportation, handling, use, and disposal of hazardous materials that may cause air, water, or soil contamination.	**Consistent:** As detailed in Section 5.7, project compliance with applicable laws and regulations governing the use, storage, transportation, and disposal of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts.
Community Design Element	
Community Design Goal CD-1: Vehicular and Pedestrian Corridors	
Policy CD-1.4: Promote a consistent landscape character along City streets to reinforce the unique qualities of each corridor and district, including the development of	**Consistent:** The project proposes several improvements along Sunflower Avenue that would enhance the visual quality along the project frontage. Upgrades to Sunflower Avenue would include placing the existing Southern

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Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
landscaped medians. Support implementation of the recommended street tree palette for each City street, as identified in the City of Costa Mesa Streetscape and Median Development Guidelines.	California Edison 66-kilovolt utility lines underground and implementing a new pedestrian sidewalk and protected bicycle lane. Extensive landscaping would also be planted along the southern side of Sunflower Avenue adjacent to the project frontage. The Specific Plan includes landscape development standards and design guidelines which would be consistent with the City's Streetscape and Median Development Guidelines (PPP AES-2).
Policy CD-1.5: Encourage electric and communication lines to be placed underground and electrical substations and telephone facilities to be screened to minimize visual impacts from sidewalks, streets, and adjacent properties. Support utility undergrounding through conditions of project approval, preparation of undergrounding plans, and the formation of assessment districts.	**Consistent:** The project proposes to underground existing Southern California Edison electric pole lines along the project frontage in Sunflower Avenue.
Community Design Goal CD-3: High Quality and Visually Interesting Nodes	
Policy CD-3.2: Reinforce a sense of arrival into the City by promoting architecturally significant development and significant landscape plantings at key nodes. Undertake a visioning process to develop specific design guidelines that articulate the desired character for each node within Costa Mesa.	**Consistent:** As detailed in the Specific Plan, a primary community entry to the project site would provide a sense of arrival. The entry design would be attractive and functional and convey a ceremonial sense of entry that reflects the community image and identity. Physical elements of an entry, including roadway archways, paving materials, signs, landscape planting, would be considered and function together to physically define the entry. The project also proposes an open space art plan, which would include a design feature along the Building A parking garage wall adjacent to I-405.
Community Design Goal CD-5: Edges	
Policy CD-5.1: Preserve and optimize natural views and open spaces in Costa Mesa.	**Consistent:** The project site does not contain natural views or open spaces. However, the project would provide a 1.5-acre open space area on the western portion of the project site with amenities, including seating and resting areas, creative landscaping, shade structures, and art pieces. The open space would be available to the general public by a dedicated easement.
Policy CD-5.3: Develop open space corridors and trails along the edges of Costa Mesa where feasible and connect these trails to existing and potential future trails throughout the City.	**Consistent:** The project would enhance the area's connection to the Santa Ana River Trail which runs along the western boundary of the project site and City by providing walking and bicycling amenities along Sunflower Avenue, resurfacing and landscaping the existing trail west of the project site towards the Santa Ana River Trail, and the proposed open space.
Policy CD-5.6: Continue to work with Caltrans to improve the design quality of freeway edges.	**Consistent:** The southern project boundary is adjacent to I-405. The Building A parking garage would be located adjacent to I-405 and is proposed as a public art piece. Specifically, the Specific Plan details the requirements for a Public Art Plan to include examples of murals or other works to be used to enhance blank building walls, particularly the blank Building A wall adjacent to I-405 (PPP AES-2). The artwork may include illumination to allow passing motorists view of the artwork at reasonable hours. In accordance with the Specific Plan, Cultural Arts Committee approval is required to ensure the designs for the public art along the I-405 do not result in significant impacts to adjacent communities and vehicles travelling along the I-405 (PPP AES-1). Additionally, SCA AE-5 and Mitigation Measure AE-1 requires the applicant to submit a lighting plan and photometric study for City approval. All project lighting along I-405 would be required to meet Caltrans lighting standards.

Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Community Design Goal CD-6: Image	
Policy CD-6.1: Encourage the inclusion of public art and attractive, functional architecture into new development that will have the effect of promoting Costa Mesa as the "City of the Arts". **Policy CD-6.2:** Encourage the use of creative and well-designed signs that establish a distinctive image for the City.	**Consistent:** The proposed project would redevelop the site with well-designed contemporary buildings and landscaping and would contribute to a positive visual image of the City of Costa Mesa. As detailed throughout the Specific Plan, public art would be incorporated throughout the project site, including within the open space and along the walking paths. In addition, the proposed project would include artistic treatments for the Building "A" parking elevation (façade) along the I-405 freeway (PPP AES-1). Pursuant to SCA AE-1, the City would verify the proposed project is architecturally compatible (pertaining to building materials, style, colors, etc.) with the existing surrounding development during the plan check process. The Specific Plan outlines development standards and design guidelines for the use of signs throughout the project site. The Specific Plan would ensure that on-site signs would be creative and well-designed. The proposed project would also include entry, directional, identification, and open space signage to provide for wayfinding and placemaking. Pursuant to SCA AE-4, permits would be required for all signs according to the provisions of the Costa Mesa Sign Ordinance. Freestanding signs would be subject to review and approval by the Planning Division/ Development Services Director to ensure compatibility in terms of size, height, and location with the proposed/existing development, and existing freestanding signs in the project vicinity. The proposed project would be consistent with this policy in this regard.
Community Design Goal CD-7: Quality Residential	
Policy CD-7.3: Ensure that California native plants are used to support the local ecology and save water. Develop landscaping guidelines that reflect the local community.	**Consistent:** Project landscaping would be required to comply with the City's Landscape Water Conservation Ordinance. The project would also limit landscape irrigation when possible and incorporate drought-tolerant plant species, non-potable water sources, and weather-based smart irrigation controllers (PPP EN-2 and PPP EN-3).
Community Design Goal CD-9: Mixed-Use	
Policy CD-9.1: Require that mixed-use development projects be designed to mitigate potential conflicts between uses. Consider noise, lighting, and security.	**Consistent:** The project's potential impacts related to noise, lighting, and security (police protection), are detailed in Sections 5.10, 5.1, and 5.12, which conclude impacts would be reduced to less than significant levels with mitigation, plans, programs, and policies, and standard conditions of approval incorporated.
Policy CD-9.2: Provide adequate parking, open space and recreational facilities to serve residents in mixed-use development projects. Design parking and other areas to acknowledge different users (residents versus shoppers) and to be compatible with the architectural character of the building(s).	**Consistent:** Parking areas for the proposed project would be in an enclosed parking structure within Buildings A, B, and C and would not be visible from the outdoors or from public rights-of-way (except for parking driveways and entrances). The proposed project would include artistic treatments for the Building A parking elevation (façade) along the I-405 freeway (PPP AES-1). No parking structure entrances would be visible from Sunflower Avenue. Parking structure entrances would be designed to be visually consistent with the architectural character of the buildings. The proposed project would be consistent with this policy in this regard.
Policy CD-9.6: Support efforts to mix compatible uses and activities. Encourage the siting of community-oriented services, businesses, and amenities in and near mixed-use neighborhoods, including schools, libraries, open space, and parks.	**Consistent:** The project is a mixed-use development and would provide residential, commercial, office, and open space uses on-site. The project is also adjacent to other retail developments, such as SOCO.

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Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Community Design Goal CD-12: Public Safety Through Design	
Policy CD-12.1: Decrease the opportunity for criminal activity by addressing high-risk circumstances (e.g., dark alleys, enclosed stairwells, and dark entrances). Involve the Police and Fire Departments in reviewing and making design recommendations during the project review process. **Policy CD-12.2:** Continue to implement and refine development standards and/or guidelines based on Crime Prevention Through Environmental Design (CPTED) for new development and redevelopment with emphasis on site and building design to minimize vulnerability to criminal activity.	**Consistent:** The proposed Specific Plan includes CPTED techniques in the project design to reduce crime through site, structural, and environmental designs and management. CPTED measures to be incorporated into the project design may include: implementing project landscaping and site lighting that avoids creating blind spots or hiding places; creating open spaces in full view; designing pedestrian walkways to be unobstructed from outdoor furniture; installing property maintenance and surveillance; maintaining shrubbery no taller than three feet; accentuating building entrances and parking areas with architectural elements, lighting, and landscaping; fully illuminating tenant spaces at night; and constructing parking garage stairwells to be visible (without solid walls).
Open Space and Recreation Element	
Open Space and Recreation Goal OSR-1: Balanced and Accessible System of Parks and Open Spaces	
Policy OSR-1.5: Maximize public space by requiring plazas and public gathering spaces in private developments that can serve multiple uses, including recreation and social needs.	**Consistent:** The proposed 1.5-acre of open space would include passive recreational amenities, such as seating and resting areas, creative landscaping, shade structures, and art pieces for residents, employees, and visitors. An Active Transportation Hub is also proposed adjacent to the proposed open space area and Santa Ana River Trail. The Active Transportation Hub may include amenities, such as bicycle lockers, bicycle storage, and repair facilities, and may host community-wide bicycle-share programs and events. Additional common spaces are also proposed throughout the residential community, including gathering spaces between the buildings.
Policy OSR-1.18: Provide a minimum of 4.26 acres of parkland per 1,000 residents.	**Consistent:** As detailed in Section 5.12, the project would be required to dedicate land and/or pay in-lieu fees sufficient for acquisition and development of parkland in accordance with the Quimby Act and Ordinance No. 2016-07 (Measure Z), or as otherwise required by the terms and conditions of the Development Agreement.
Policy OSR-1.20: Enhance pedestrian, bicycle, and transit linkages to meet the needs of residents and to provide better access to parks, recreation, and public spaces.	**Consistent:** Refer to response to Policies CON-1.A.7, CON-4.A.5, and CON-4.A.6 above.
Policy OSR-1.21: Provide opportunities for public access to all open space areas, except where sensitive resources may be threatened or damaged, public health and safety may be compromised, or access would interfere with the managed production of resources.	**Consistent:** The proposed project includes development of a 1.5-acre open space area. In addition, the project would enhance bicycle and pedestrian connections to the Santa Ana River Trail. The proposed open space amenities would not interfere with sensitive resources.
Open Space and Recreation Goal OSR-3: Conserved open space	
Policy ORS-3.1: Preserve open space areas along the Santa Ana River, large open space parks, and along the mesa formations to protect natural habitat and to maintain the integrity of the natural environment.	**Not applicable:** The project is not within an existing open space area and does not contain natural habitat. However, the project proposes a 1.5-acre open space area on the western end of the project site, adjacent to the Santa Ana River.
Open Space and Recreation Goal OSR-4: Extensive Arts and Culture Programs and Services	
Policy OSR-4.16: Pursue the placement of public art in prominent locations, particularly along major travel corridors to enliven and beautify the public realm.	**Consistent:** Refer to response to Policies CD-6.1 and CD-6.2.

Table 5.9-1 Project Consistency with General Plan, continued

Applicable General Plan Goal and Policies	Consistency Analysis
Historical and Cultural Resources Element	
Historical and Cultural Resources Goal HCR-1: Historical, Archaeological, and Paleontological Resource Preservation	
Policy HCR-1.4: Require, as part of the environmental review procedure, an evaluation of the significance of paleontological, archaeological, and historical resources, and the impact of proposed development on those resources. **Policy HCR-1.7:** Require cultural resources studies (i.e., archaeological and historical investigations) for all applicable discretionary projects, in accordance with CEQA regulations. The studies should identify cultural resources (i.e., prehistorical sites, historical sites, and isolated artifacts and features) in the project area, determine their eligibility for inclusion in the California Register of Historical Resources, and provide mitigation measures for any resources in the project area that cannot be avoided. Cultural resources studies shall be completed by a professional archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistorical or historical archaeology. **Policy HCR-1.8:** Comply with requirements of the California Environmental Quality Act regarding protection and recovery of archaeological resources discovered during development activities. **Policy HCR-1.9:** Require paleontological studies for all applicable discretionary projects. The studies should identify paleontological resources in the project area, and provide mitigation measures for any resources in the project area that cannot be avoided. **Policy HCR-1.10:** Comply with the California Environmental Quality Act regarding the protection and recovery of paleontological resources during development activities.	**Consistent:** A Cultural Resources Survey Report and Paleontological Resources Paleontological Resources Assessment were prepared to evaluate the project's potential impacts on paleontological, archaeological, and historical resources. Refer to Sections 5.3, *Cultural Resources*, and 5.5, *Geology and Soils*, for additional analysis.

Zoning Ordinance

As indicated previously, the project site is zoned Industrial Park (MP). MP districts allow for large, concentrated industrial areas developed to create a spacious park-like environment. Implementation of the proposed project requires a Zone Change from MP to Planned Development Residential – High Density (PDR-HD). According to Municipal Code Section 13-20, *Zoning Districts*, PDR-HD districts are intended for multi-family residential developments containing any type or mixture of housing units, either attached or detached, including but not limited to clustered development, townhouses, patio houses, detached houses, duplexes, garden apartments, high rise apartments, or common interest developments. Complementary non-residential uses could also be included in the planned development. As such, the proposed zoning district would allow a mix of residential and non-residential uses and site-specific development standards pursuant to the proposed Specific Plan. Upon City approval of the proposed Zone Change, the project would be consistent with the Zoning Ordinance.

Section 3, *Development Standards and Design Guidelines*, of the Specific Plan includes a number of development standards that would guide future development of the site. Table 3-3, *Permitted and Conditionally Permitted Uses*, in Chapter 3, *Project Description*, details permitted and conditionally permitted land uses within the Specific Plan area. In addition, Table 3-4, *General Development Standards*, provides setback, building height, parking, and amenity requirements for the proposed residential and non-residential uses. Future development on-site would be required to comply with the Specific Plan development standards and thus, would be consistent with the Zoning Ordinance.

2016 Regional Transportation Plan/Sustainable Communities Strategy

Table 5.9-2, *Project Consistency with 2016 RTP/SCS Goals*, provides an assessment of the proposed project's relationship to pertinent 2016 RTP/SCS goals. The 2016 RTP/SCS goals are directed toward transit, transportation and mobility, and protection of the environment and health of residents. As demonstrated, the proposed project is consistent with the goals identified in the 2016 RTP/SCS.

Table 5.9-2 Project Consistency with 2016 RTP/SCS Goals

RTP/SCS Goal	Project Compliance with Goal
RTP/SCS G1: Align the plan investments and policies with improving regional economic development and competitiveness.	**Consistent:** The project would allow development of a multi-family mixed-use development with creative office space, tenant-serving retail, and open space. The proposed development would provide additional employment opportunities within the City and improve regional economic development.
RTP/SCS G2: Maximize mobility and accessibility for all people and goods in the region. **RTP/SCS G3:** Ensure travel safety and reliability for all people and goods in the region. **RTP/SCS G4:** Preserve and ensure a sustainable regional transportation system. **RTP/SCS G5:** Maximize the productivity of our transportation system.	**Not Applicable:** RTP SCS Goals 2 through 5 are related to enhancing the mobility, accessibility, safety, sustainability, and productivity of the regional transportation system. While considered a project of regional significance, the proposed project would not have an impact on the regional transportation system. The project is located along Sunflower Avenue, which is not a regional roadway within Costa Mesa or the County. Nevertheless, from a local, project-level perspective, the project involves several off-site improvements along Sunflower Avenue that would increase pedestrian connectivity and visual experience; increase cyclist safety; and enhance site access. Improvements to Sunflower Avenue along the project frontage involve reducing vehicle lanes from four to two lanes and providing upgraded sidewalks, parkways, protected bicycle lanes, and landscaped medians.
RTP/SCS G6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	**Consistent:** Sections 5.2, *Air Quality*, and 5.6, Greenhouse Gas Emissions, address air quality and global climate change impacts that would occur as a result of implementation of the project, and identify regulatory requirements and mitigation measures required to reduce any impacts, as applicable and feasible. The project would encourage active transportation by enhancing pedestrian and bicycle facilities along Sunflower Avenue towards the Santa Ana River to the west and developing an active transportation hub, adjacent to the proposed open space area and Santa Ana River Trail. The Active Transportation Hub may include amenities, such as bicycle lockers, bicycle storage, repair facilities, and host community-wide bicycle-share programs and events. Patrons would also be able to safely and conveniently walk from the parking areas to the common area and buildings via the decorative aggregate paving of the parking areas. Parking and access pathways throughout the site would comply with the Americans With Disabilities Act (ADA).

Table 5.9-2 Project Consistency with 2016 RTP/SCS Goals, continued

RTP/SCS Goal	Project Compliance with Goal
RTP/SCS G7: Actively encourage and create incentives for energy efficiency, where possible.	**Consistent:** Energy-saving and sustainable design features and operational programs would be incorporated into the proposed project, including those required by CALGreen (PPP EN-1). As detailed in Specific Plan Section 2.4, *Community Sustainability*, the project would install electric vehicle charging stations (PPP EN-5), accommodate future installation of solar panels on appropriate roofs, install energy efficient major appliances in all residential units, implement a water conservation strategy that demonstrate a minimum 20 percent reduction in indoor water usage (compared to baseline water allowance) (PPP EN-3), integrate a landscaping palette that emphasizes drought-tolerant species, and utilize water-efficient irrigation techniques (PPP EN-2). Additional sustainable design and operation techniques are detailed in Section 3, *Development Standards and Design Guidelines*, of the Specific Plan.
RTP/SCS G8: Encourage land use and growth patterns that facilitate transit and active transportation.	**Consistent:** See responses to RTP/SCS Goals G2 through G6.
RTP/SCS G9: Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	**Not Applicable:** This policy addresses the security of the regional transportation system, which is beyond the proposed project's scope.

Source: SCAG 2016.

Conclusion

Based on the analysis, implementation of the proposed project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, including the General Plan, Zoning Ordinance, and 2016 RTP/SCS.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.9.5 Cumulative Impacts

Impact 5.9-2: Development of the proposed project in combination with related projects would not result in cumulatively considerable conflicts with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. [Threshold LU-2]

***Impact Analysis*:**

General Plan

Upon approval of the required discretionary approvals, the project would be consistent with the applicable General Plan policies and would be consistent with the General Plan Land Use Map and Zoning Map. Related development projects within the City would undergo a similar plan review process to determine potential land use planning policy and regulation conflicts. Each cumulative project would be analyzed independent of other projects, within the context of their respective land use and regulatory setting. As part of the review process, each project would be required to demonstrate compliance with the provisions of the applicable land use designation(s). As with the proposed project, each cumulative project would be analyzed to ensure consistency

with the goals and policies of the General Plan. As the project would be consistent with the General Plan upon approval, the project would not result in cumulatively considerable impacts in this regard.

Zoning Ordinance

Future cumulative projects would undergo a similar plan review process to determine potential inconsistencies with the Zoning Ordinance, within the context of their respective zoning and regulatory setting. Similar to land use consistency, each project would be required to demonstrate compliance with the provisions of the applicable zoning district(s). Thus, as the project would be consistent with the Zoning Ordinance upon approval, the project would not result in cumulatively considerable impacts in this regard.

2016 Regional Transportation Plan/Sustainable Communities Strategy

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted 2016 RTP/SCS. SCAG refers to CEQA Guidelines Section 15206, *Projects of Statewide, Regional or Areawide Significance*, in determining whether a project meets the criteria to be deemed regionally significant. Each cumulative project would be evaluated on a project-by-project basis, to determine its regional significance, if any. As stated, the project would be consistent with the 2016 RTP/SCS goals. Thus, the project would not cumulatively contribute to impacts resulting from inconsistencies with the 2016 RTP/SCS. A less than significant impact would occur in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.9.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be less than significant: Impacts 5.9-1 and 5.9-2.

5.9.7 Mitigation Measures

No mitigation measures are required.

5.9.8 Level of Significance After Mitigation

Impacts would be less than significant.

Chapter 5.10 Noise

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5.10 NOISE

This section of the Draft EIR evaluates noise source and vibration impacts on-site and to surrounding land uses as a result of implementation of the proposed project. The analysis in this section is based in part on the following information:

- *Noise and Vibration Impact Analysis* (Noise/Vibration Analysis), LSA, January 2020;
- *Traffic Impact Analysis: One Metro West, City of Costa Mesa Orange County, California* (TIA), LSA, January 2020; and
- *Air Quality and Greenhouse Gas Impact Analysis* (Air Quality/GHG Report), LSA, January 2020.

Complete copies of these studies are included in the technical appendices of this Draft EIR (Volume II, Appendix C, *Air Quality and Greenhouse Gas Impact Analysis*, Appendix K, *Noise and Vibration Impact Analysis*, and Appendix M, *Traffic Impact Analysis*).

5.10.1 Environmental Setting

Noise and Vibration Fundamentals

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." Based on these known adverse effects of noise, the Federal, State, and local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

The following are brief definitions of terminology used in this chapter.

- **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level (L_{eq}) or Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.
- **Statistical Sound Level (L_n).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise

levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded ten percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added from 7:00 p.m. to 10:00 p.m. and 10 dB from 10:00 p.m. to 7:00 a.m. For general community/environmental noise, the CNEL and L_{dn} values rarely differ by more than 1 dB (with the CNEL being only slightly more restrictive, that is, higher than the L_{dn} value). As a matter of practice, L_{dn} and CNEL values are interchangeable and are treated as equivalent in this assessment.
- **Peak Particle Velocity (PPV).** The peak signal value of an oscillating vibration velocity waveform usually expressed in inches per second (in/sec).
- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Examples include residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes.

Sound Fundamentals

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Changes of 1 to 3 dBA are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A 3 dBA change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dBA is readily discernable to most people in an exterior environment whereas a 10 dBA change is perceived as a doubling (or halving) of the sound.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The dBA performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Sound Measurement

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dBA is 10 times more intense than 1 dBA, while 20 dBA is 100 times more intense, and 30 dBA is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dBA. The decibel system of measuring sound gives a rough

connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single point source, sound levels decrease by approximately 6 dBA for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dBA for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dBA for each doubling of distance.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure, functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA could result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear.

Vibration Fundamentals

Vibration is an oscillatory motion through a solid medium, such as the ground or a building. Vibration is normally associated with activities stemming from operations of railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers.

Amplitude

Vibration amplitudes are usually described in terms of either the PPV or the root mean square (RMS) velocity. PPV is the maximum instantaneous peak of the vibration signal, and RMS is the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage. The units for PPV are normally in/sec. Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

The way in which vibration is transmitted through the earth is called propagation. As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

As with airborne sound, annoyance with vibrational energy is a subjective measure, depending on the level of activity and the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of

perception can be annoying. Persons accustomed to elevated ambient vibration levels (e.g., urban environments) may tolerate higher vibration levels. Table 5.10-1, *Typical Vibration Level Effects*, details the human response and the effects on buildings resulting from continuous vibration (in terms of various levels of PPV).

Table 5.10-1 Typical Vibration Level Effects

Vibration Level Peak Particle Velocity	Human Reaction	Effect on Buildings
0.006 – 0.019 in/sec	Threshold of perception; possibility of intrusion.	Vibrations unlikely to cause damage of any type.
0.08 in/sec	Vibrations readily perceptible.	Recommended upper level of vibration to which ruins and ancient monuments should be subjected.
0.10 in/sec	Level at which continuous vibration begins to annoy people.	Virtually no risk of "architectural" (i.e., not structural) damage to normal buildings.
0.20 in/sec	Vibrations annoying to people in buildings.	Threshold at which there is a risk to "architectural" damage to normal dwelling – houses with plastered walls and ceilings.
0.4–0.6 in/sec	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges.	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

Source: LSA 2020.
Notes: in/sec = inches per second

5.10.1.1 REGULATORY BACKGROUND

State

California Building Code

California Building Code (CBC), Title 24, Section 1207.11.2, *Allowable Interior Noise Levels*, requires that interior noise levels attributable to exterior sources not exceed 45 dBA in any habitable room. The noise metric is evaluated as either L_{dn} or CNEL, consistent with the noise element of the local general plan.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen) has requirements for insulation that affect exterior-interior noise transmission for non-residential structures. Pursuant to CALGreen Section 5.507.4.1, *Exterior Noise Transmission*, an architectural acoustics study may be required when a project site is within a 65 dBA CNEL or L_{dn} noise contour of an airport, freeway or expressway, railroad, industrial source, or fixed-guideway source. Where noise contours are not readily available, if buildings are exposed to a noise level of 65 dBA L_{eq} during any hour of operation, specific wall and ceiling assembly and sound-rated windows may be necessary to reduce interior noise to acceptable levels. A performance method may also be used per CALGreen Section 5.507.4.2 to show compliance with State interior noise requirements.

Local

General Plan

The Noise Element of the General Plan includes the following goals, objectives, and policies to minimize adverse noise conditions within the City:

- **Objective N-1A:** Control noise levels within the City for the protection of residential areas, park areas, and other sensitive land uses from excessive and unhealthful noise.
  - **Policy N-1.1:** Enforce the maximum acceptable exterior noise levels for residential areas at 65 CNEL.
  - **Policy N-1.4:** Ensure that appropriate site design measures are incorporated into residential developments, when required by an acoustical study, to obtain appropriate exterior and interior noise levels.
  - **Policy N-1.4:** Apply the standards contained in Title 24 of the California Code of Regulations as applicable to the construction of all new dwelling units.
- **Objective N-2A:** Plan for the reduction in noise impacts on sensitive receptors and land uses.
  - **Policy N-2.1:** Require the use of sound walls, berms, interior noise insulation, double-paned windows, and other noise mitigation measures, as appropriate, in the design of new residential or other new noise sensitive land uses that are adjacent to arterials, freeways, or adjacent to industrial or commercial uses.
  - **Policy N-2.2:** Require, as a part of the environmental review process, that full consideration be given to the existing and projected noise environment.
  - **Policy N-2.4:** Require that all proposed projects are compatible with adopted noise/land use compatibility criteria.
  - **Policy N-2.5:** Enforce applicable interior and exterior noise standards.

In addition, the Noise Element sets forth land use compatibility guidelines to protect residential neighborhoods and noise-sensitive receptors from potentially harmful noise sources. The noise and land use compatibly standards are detailed in Table 5.10-2, *Noise and Land-Use Compatibility Standards*.

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Table 5.10-2 Noise and Land Use Compatibility Standards

Land Use	Community Noise Exposure (CNEL or L_{dn}, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential: Low Density	50 - 60	60 - 70	70 - 75	75 or greater
Residential: Multiple Family	50 - 65	65 - 70	70 - 75	75 or greater
Mixed Use	50 - 65	65 - 70	70 - 75	75 or greater
Transient Lodging-Motel, Hotels	60 - 65	65 - 70	70 - 80	80 or greater
School, Libraries, Churches, Hospitals, Nursing Homes	50 - 60	60 - 65	65 - 80	80 or greater
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	80 or greater
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	80 or greater
Playgrounds, Neighborhood Parks	50 - 67.5	NA	67.5 - 75	75 or greater
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 70	NA	70 - 80	80 or greater
Office Buildings, Business Commercial and Professional	50 - 67.5	67.5 - 77.5	77.5 - 85	85 or greater unless appropriately insulated
Industrial, Manufacturing, Utilities, Agriculture	50 - 70	70 - 80	80 - 85	NA

Source: LSA 2020.
Notes: CNEL = Community Noise Equivalent Level; L_{dn} = Day Night Level; dBA = A-weighted decibels; NA = not applicable

Municipal Code

Interior and Exterior Noise Standards

Municipal Code Sections 13-280, *Exterior Noise Standards*, 13-281, *Interior Noise Standards*, and 13-282, *Noise Near Schools, Hospitals, Churches*, establish permissible noise levels at the property line of nearby sensitive receptors. Sections 13-280 and 13-281 establish interior and exterior noise level standards for residential land uses affected by stationary noise sources. Section 13-282 applies the exterior noise standards from Section 13-280 to any school, hospital, or church while it is in use. Table 5.10-3, *City of Costa Mesa Noise Level Standards, dBA*, summarizes the City's noise level standards based on the land use, measurement location (exterior/interior), and time period.

Table 5.10-3 City of Costa Mesa Noise Level Standards, dBA

Land Use	Exterior/ Interior	Time Period	L_{50}	L_{25}	L_8	L_2	L_{max}
Residential	Exterior	7:00 a.m. to 11:00 p.m.	55	60	65	70	75
		11:00 p.m. to 7:00 a.m.	50	55	60	65	70
	Interior	7:00 a.m. to 11:00 p.m.	—	—	55	60	65
		11:00 p.m. to 7:00 a.m.	—	—	45	50	55
School, Hospital or Church[1]	Exterior	7:00 a.m. to 11:00 p.m.	55	60	65	70	75
		11:00 p.m. to 7:00 a.m.	50	55	60	65	70

Source: LSA 2020.
Notes: dBA = A-weighted decibels, L_{50}=noise level exceeded 50 percent of the time, L_{25}= noise level exceeded 25 percent of the time. L_8= noise level exceeded 8 percent of the time, L_2= noise level exceeded 2 percent of the time, L_{max} = maximum sound level
[1] The exterior noise standards are applicable to schools, hospitals, and churches while they are in use.

In the event ambient noise levels exceed any of the noise limit categories above, the cumulative period applicable to the category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the last noise limit category, the maximum allowable noise level under the category shall be increased to reflect the maximum ambient noise level.

Construction Noise Standards

Municipal Code Section 13-279, *Exceptions for Construction*, establishes allowed times for construction activities and includes special provisions for sensitive land uses. The Municipal Code allows construction to occur between the hours of 7:00 a.m. and 7:00 p.m., Mondays through Fridays, and between 9:00 a.m. and 6:00 p.m. on Saturdays. Construction is not permitted outside of these hours or on Sundays or New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, unless a temporary waiver is granted by the City of Costa Mesa Development Services Director or his/her authorized representative or in emergencies, including maintenance work in the City rights-of-way. The limitations on construction activity also apply to vehicles and equipment involved with deliveries, loading or transferring materials, equipment service, or maintenance of any equipment.

5.10.1.2 EXISTING CONDITIONS

Noise monitoring and traffic noise modeling were used to quantify existing noise levels at the project site and vicinity. Associated monitoring data are summarized below and included in Appendix K. Noise monitoring data was gathered at multiple locations in the project vicinity for the purpose of calibrating the SoundPLAN noise model. This allows for an accurate assessment of existing noise generated along the I-405 Freeway, which is the dominate source of noise in the project vicinity, including the residential uses south of the I-405 Freeway and the project site. In the City, vehicular traffic is the primary source of noise. Other noise sources that contribute to the ambient noise levels include noise from aircraft overflights, industrial uses, construction, and mechanical equipment.

Existing Noise Levels

To assess existing noise levels, four long-term noise measurements and two short-term noise measurements were conducted in the vicinity of the project site. The long-term noise measurements were recorded from March 29 through April 2, 2019 and captured noise data to calculate the hourly L_{eq} and CNEL at each location, including nighttime hours. Sources that dominate the existing noise environment include vehicular traffic along the I-405 Freeway and Sunflower Avenue and occasional aircraft overflights. The short-term noise measurements were recorded on April 1, 2019 and captured the major traffic noise sources listed above. Noise measurement data collected are summarized in Table 5.10-4, *Existing Long-Term Noise Level Measurements,* and Table 5.10-5, *Existing Short-Term Noise Level Measurements*. Noise monitoring locations are provided in Appendix K.

Table 5.10-4 Existing Long-Term Noise Level Measurements

Location	Description	Date	Daytime Noise Levels[1] (dBA L_{eq})	Nighttime Noise Levels[2] (dBA L_{eq})	Daily Noise Levels (dBA CNEL)	Highest Daily Noise Level (dBA CNEL)
LT-1	1683 Sunflower Avenue, at the southeast corner of the property.	3/29/2019	66.8–75.8	67.4–74.0	78.1	79.6
		3/30/2019	70.4–75.6	64.3–73.9	77.6	
		3/31/2019	75.3–76.0	66.6–75.8	79.6	
		4/1/2019	66.7–76.7	67.2–76.3	79.4	
LT-2	1683 Sunflower Avenue, south of the walkway to the entrance of Robinson Pharma. This site is lower in elevation than the I-405 Freeway, resulting in shielding by existing terrain.	3/29/2019	63.6–69.8	58.7–66.8	70.6	72.5
		3/30/2019	65.6–70.0	57.9–67.3	70.7	
		3/31/2019	68.0–70.3	59.1–68.6	72.5	
		4/1/2019	62.5–69.1	58.0–68.6	71.7	
LT-3	1683 Sunflower Avenue, in a tree approximately 60 feet from Sunflower Avenue, near the northwestern portion of the property.	3/29/2019	55.7–62.5	50.5–58.0	61.9	63.7
		3/30/2019	56.3–62.0	51.1–58.9	62.7	
		3/31/2019	59.0–62.6	51.3–59.7	63.6	
		4/1/2019	58.3–64.2	50.2–60.6	63.7	
LT-4	1683 Sunflower Avenue, near the eastern property line, approximately 600 feet north of the southern property line.	3/29/2019	54.3–58.3	50.6–58.0	61.2	63.7
		3/30/2019	55.2–58.1	53.3–59.7	62.3	
		3/31/2019	55.7–59.4	50.1–59.1	62.0	
		4/1/2019	55.3–64.9	51.1–61.5	63.7	

Source: LSA 2020.
Notes: CNEL = Community Noise Equivalent Level; dBA = A weighted decibels; L_{eq} = equivalent continuous sound levels
1 Daytime Noise Levels = noise levels during the hours from 7:00 a.m. to 10:00 p.m.
2 Nighttime Noise Levels = noise levels during the hours from 10:00 p.m. to 7:00 a.m.

Table 5.10-5 Existing Short-Term Noise Level Measurements

Location	Description	Measured Noise Level (dBA L_{eq})	Daytime Noise Levels[2] (dBA L_{eq})	Evening Noise Levels[3] (dBA L_{eq})	Nighttime Noise Levels[4] (dBA L_{eq})	Average Daily Noise Level (dBA CNEL)
ST-1	1683 Sunflower Avenue, south of the building.	71.4	62.2 – 72.2	69.6 – 70.3	62.7 – 71.8	74.9
ST-2	1683 Sunflower Avenue, northwest portion of the western parking lot.	59.6	57.0 – 62.9	56.8 – 57.8	48.9 – 59.3	62.4

Source: LSA 2020.
Notes: dBA = A-weighted decibels; CNEL = Community Noise Equivalent Level; L_{eq}=equivalent continuous sound level
1 Hourly noise levels were calculated based on a 20-minute short-term measurement and then adjusting it to the pattern of the nearest acoustically equivalent long-term measurement on the corresponding day.
2 Daytime Noise Levels = noise levels during the hours of 7:00 a.m. to 7:00 p.m.
3 Evening Noise Levels = noise levels during the hours of 7:00 p.m. to 10:00 p.m.
4 Nighttime Noise Levels = noise levels during the hours of 10:00 p.m. to 7:00 a.m.

Aircraft Noise

Airport-related noise levels are primarily associated with aircraft engine noise made during take off, landing, or idling on the tarmac. The closest airport to the project site is the John Wayne Airport (JWA), approximately 3.4 miles to the southeast in the City of Santa Ana. The project site is outside the JWA 60 dBA CNEL noise contour (LSA 2020).

Traffic Noise

The guidelines included in the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) were used to evaluate traffic-related noise conditions along local roadway segments in the project vicinity. The details of traffic noise modeling are included in Appendix K. Table 5.10-6, *Existing Traffic Noise Levels*, provides the existing traffic noise levels in the project vicinity. These traffic noise levels are representative of a worst-case scenario that assumes a flat terrain and no shielding between the traffic and the noise contours.

Table 5.10-6 Existing Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 dBA CNEL (feet)	Centerline to 65 dBA CNEL (feet)	Centerline to 60 dBA CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Talbert Avenue west of Euclid Street	32,620	85	167	353	69.7
Talbert Avenue from Euclid Street to Newhope Street	33,960	87	172	363	69.8
MacArthur Boulevard/Talbert Avenue from Newhope Street to Mt. Washington Street	38,195	92	185	392	70.3
MacArthur Boulevard/Talbert Avenue from Mt. Washington Street to Hyland Avenue	45,685	101	207	441	71.3
MacArthur Boulevard from Hyland Avenue to Harbor Boulevard	31,190	70	135	283	68.3
MacArthur Boulevard from Harbor Boulevard to Fairview Street	27,175	66	124	258	67.7
Euclid Street from Talbert Avenue to Newhope Street	16,065	< 50	108	222	66.7
Euclid Street from Newhope Street to Ellis Avenue	19,505	65	121	252	67.6
West Lake Center Drive/Scenic Avenue west of Harbor Boulevard	4,740	< 50	< 50	69	59.4
West Lake Center Drive /Scenic Avenue east of Harbor Boulevard	5,850	< 50	< 50	75	61.3
Sunflower Avenue west of Project Driveway 1	2,480	< 50	< 50	< 50	49.8
Sunflower Avenue from Project Driveway 1 to Project Driveway 2	2,500	< 50	< 50	57	58.1
Sunflower Avenue from Project Driveway 2 to Project Driveway 3	2,565	< 50	< 50	58	58.2
Sunflower Avenue from Project Driveway 3 to Hyland Avenue	4,830	< 50	< 50	84	60.9
Sunflower Avenue from Hyland Avenue to Harbor Boulevard	10,480	< 50	67	138	64.3
Sunflower Avenue from Harbor Boulevard to Susan Street	15,635	< 50	86	179	66.1
Sunflower Avenue from Susan Street to Fairview Road	14,590	< 50	82	171	65.8
Hyland Avenue from MacArthur Boulevard to Sunflower Avenue	13,560	< 50	79	163	65.4
Hyland Avenue from Sunflower Avenue and South Coast Drive	13,350	< 50	78	161	65.4
Harbor Boulevard north of Segerstrom Avenue	32,090	84	166	349	69.6

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Table 5.10-6 Existing Traffic Noise Levels, continued

Roadway Segment	ADT	Centerline to 70 dBA CNEL (feet)	Centerline to 65 dBA CNEL (feet)	Centerline to 60 dBA CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard	31,500	83	164	345	69.5
Harbor Boulevard from MacArthur Boulevard to Westlake Center Drive/Scenic Avenue	34,255	87	173	365	69.9
Harbor Boulevard from Westlake Center Drive/Scenic Avenue to Sunflower Avenue	34,450	75	144	302	68.6
Harbor Boulevard from Sunflower Avenue to South Coast Drive	39,850	86	160	333	68.8
Harbor Boulevard from South Coast Drive to I-405 Freeway NB Off-Ramp	49,665	95	184	385	69.8
Harbor Boulevard from I-405 Freeway NB Off-Ramp to I-405 Freeway SB Off-Ramp	36,170	80	150	312	68.6
Harbor Boulevard from I-405 Freeway SB Off-Ramp to Gisler Avenue	50,120	94	184	387	70.0
Harbor Boulevard south of Gisler Avenue	43,680	87	169	353	69.4
Susan Street from Sunflower Avenue to South Coast Drive	12,950	< 50	63	128	63.8
I-405 Freeway NB On-Ramp from Hyland Avenue	7,850	55	118	254	69.9
South Coast Drive from Hyland Avenue/I-405 Freeway NB Ramps to Harbor Boulevard	16,155	< 50	105	221	67.5
South Coast Drive from Harbor Boulevard to Susan Street	17,130	< 50	109	230	67.7
South Coast Drive from Susan Street to Fairview Street	17,245	< 50	84	175	65.9
Fairview Street north of MacArthur Boulevard	34,480	89	174	367	69.7
Fairview Street/Fairview Road from MacArthur Boulevard to Sunflower Avenue	33,470	88	171	359	69.6
Fairview Road from Sunflower Avenue to South Coast Drive	36,500	92	181	381	70.0
Fairview Road from South Coast Drive to I-405 Freeway NB Ramps	46,800	105	211	448	71.1
Fairview Road from I-405 Freeway NB Ramps to I-405 Freeway SB Ramps	43,430	106	204	428	70.2
Fairview Road south of I-405 Freeway SB Ramps	37,410	76	151	318	69.2

Source: LSA 2020.
Notes: ADT = average daily traffic; CNEL = Community Noise Equivalent Level; dBA = A-weighted decibels; I-405 = Interstate 405; NB = northbound; SB = southbound

5.10.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

N-1 Generate 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.

N-2 Generate excessive groundborne vibration or groundborne noise levels.

N-3 For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

Significance Thresholds

Construction Noise

Construction noise level limits are regulated in the City by the allowable hours of construction, as described in the Municipal Code. Therefore, construction noise was assessed using criteria from the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual*. Table 5.10-7, *General Assessment Construction Noise Criteria*, shows the FTA's noise criteria based on the composite noise levels of the two noisiest pieces of equipment per construction stage.

Table 5.10-7 General Assessment Construction Noise Criteria

Land Use	Daytime 1-hour Leq (dBA)	Nighttime 1-hour Leq (dBA)
Residential	90	80
Commercial	100	100
Industrial	100	100

Source: LSA 2020.
Notes: dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level

Traffic Noise

A project normally has a significant effect on the environment related to noise if it substantially increases the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an exterior environment. As such, traffic noise impacts are considered significant if sensitive receptors experience 3 dBA or more increases in ambient noise levels with implementation of the project.

Stationary Noise

The City's noise level standards summarized in Table 5.10-3 are the applicable significance threshold for stationary noise sources associated with the project. Impacts would be considered significant if proposed stationary sources exceed these standards.

Vibration

Table 5.10-8, *Construction Vibration Damage Criteria*, lists the potential vibration building damage criteria associated with construction activities, as suggested in the FTA's *Transit Noise and Vibration Impact Assessment Manual*.

The FTA guidelines show that a vibration level of up to 0.3 in/sec PPV is considered safe for buildings consisting of engineered concrete and masonry and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction building vibration damage criterion is 0.2in/sec PPV.

Table 5.10-8 Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Non-engineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Source: LSA 2020.
Notes: PPV = peak particle velocity, in/sec = inch/inches per second

5.10.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approvals (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to noise.

PPP N-1 Residential stationary noise sources are required to comply with Municipal Code Section 13-280, *Exterior Noise Standard*:

- 50 dBA from 11:00 pm to 7:00 am; and
- 55 dBA from 7:00 am to 11:00 pm.

PPP N-2 Construction activities are required to comply with the following standards detailed in Municipal Code Section 13-279, *Exceptions for Construction*:

- Allowed from 7:00 a.m. to 7:00 p.m. on Mondays through Fridays;
- Allowed from 9:00 a.m. to 6:00 p.m. on Saturdays; and
- Prohibited on Sundays, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

SCA D-1 Commercial or multi-family residential zones may be considered. Preferred locations are close to a commercial area(s) with shops, restaurants, and other commercial activities and services such as banks and medical facilities. There should be easy access to bus service. Off-site pedestrian circulation should provide sidewalks that are convenient and safe to use. The

project site should be free of odors, excessive noise, and aesthetically unattractive surroundings.

SCA CONST HRS-2 All noise-generating construction activities shall be limited to 7 a.m. to 7 p.m. Monday through Friday and 9 a.m. to 6 p.m. Saturday. Noise-generating construction activities shall be prohibited on Sunday and the following Federal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

SCA RES 40 If present and/or projected exterior noise exceeds 60 Community Noise Equivalent Level (CNEL), California Noise Insulation Standards, Title 25, California Code of Regulations require a maximum interior noise level of 45 CNEL for residential structures. If required interior noise levels are achieved by requiring that windows be closed, the design for the structure must also specify the means that will be employed to provide ventilation, and cooling if necessary, to provide a habitable interior environment.

SCA C/I 42 Prior to issuance of the first building permits, a detailed acoustical study based on architectural plans shall be prepared by a qualified acoustical consultant and submitted to Planning Division for review and approval. The study shall demonstrate compliance with noise standards as required by the Project Specific Plan and the City's General Plan. The acoustical study shall be prepared in compliance with the provisions of the California Administrative Code, Title 25, Chapter 1, Subchapter 1, Article 4. The applicant shall submit two copies of the study with the application for building permits. The acoustical analysis shall evaluate existing and projected noise levels, noise attenuation measures to be applied, and the noise insulation effectiveness of the proposed construction. The applicant shall demonstrate compliance with the recommendations of the acoustic analysis report prior to the issuance of building permits. The person preparing the report shall, under the direction of a person experienced in the field of acoustical engineering, perform an inspection of the project prior to or at the time of the framing inspection to certify that construction techniques comply with recommendations contained within the acoustical analysis. Upon completion of the subject structures, field tests may be required under the provisions of Title 25.

5.10.4 Environmental Impacts

5.10.4.1 IMPACT ANALYSIS

Impact 5.10-1: Construction activities would not result in temporary noise increases in the project vicinity but would not exceed applicable standards. [Threshold N-1]

Impact Analysis:

Two types of short-term noise impacts would occur during project construction:

- Equipment delivery and construction worker commutes; and
- Project construction activities.

5. Environmental Analysis
NOISE

The first type of short-term construction noise would result from transport of construction equipment and materials to the project site and construction worker commutes. The project would generate approximately 1,760 hauling truck trips over a 100-day demolition stage (18 trips per day) and approximately 24,250 hauling truck trips over a 400-day grading and excavation stage (61 trips per day) based on CalEEMod output as detailed in Appendix C. These transportation activities would incrementally increase noise levels on access roads leading to the site. It is assumed that larger trucks used for equipment delivery would generate higher noise impacts than trucks and passenger vehicles associated with worker commutes.

As shown in Table 5.10-4, existing noise in the project vicinity is as high as 79.6 dBA CNEL. The single-event noise from equipment trucks passing at a distance of 50 feet from a sensitive noise receptor would reach a maximum level of 84 dBA L_{max}. However, the pieces of heavy equipment for grading and construction activities would be moved on-site just one time and would remain on-site for the duration of each construction stage. This one-time trip, when heavy construction equipment is moved on- and off-site, would not add to the daily traffic noise in the project vicinity. The total number of daily construction vehicle trips would be minimal when compared to existing traffic volumes on the affected streets. Furthermore, these daily construction trips would cease once construction is complete. Thus, long-term noise level change associated with these would not be perceptible. Therefore, equipment transport noise and construction-related worker commute impacts would be short term and would not result in a significant off-site noise impact.

The second type of short-term noise impact is related to noise generated during demolition, site preparation, grading, building construction, architectural coating, and paving on-site. Construction is undertaken in discrete steps, each of which has its own mix of equipment, and, consequently, its own noise characteristics. These various sequential stages would change the character of the noise generated on-site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work stage. Table 5.10-9, *Typical Construction Equipment Noise Levels*, lists the maximum noise levels of typical construction equipment based on a distance of 50 feet between the equipment and a noise receptor. Typical operating cycles for these types of construction equipment may involve one to two minutes of full power operation followed by three to four minutes at lower power settings.

Table 5.10-9 Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)[1]	Maximum Noise Level (L_{max}) at 50 Feet[1]
Compressor	40	78
Cranes	16	81
Dozers	40	82
Drill Rig	20	79
Flat Bed Trucks	40	74
Forklift	20	75
Front-end Loaders	40	79
Generator	50	82
Man-lift	20	81
Impact Pile Driver	20	101
Rollers	20	80
Water Truck	40	76

Table 5.10-9 Typical Construction Equipment Noise Levels, continued

Equipment Description	Acoustical Usage Factor (%)1	Maximum Noise Level (Lmax) at 50 Feet1
Welder	40	74

Source: LSA 2020.
Notes: L_{max} = maximum instantaneous sound level
1 Noise levels reported in this table are rounded to the nearest whole number.

Construction noise levels are expected to be highest during site preparation/grading and building construction stages. The composite noise level of each construction stage was calculated. Table 5.10-10, *Potential Construction Noise Impacts at Nearest Receptor,* shows the nearest uses to the project site, their distance from proposed construction activities, and noise levels expected during construction when site preparation occurs at the closest edge of construction and when pile driving activities occur at the closest on-site building. These noise level projections are conservative, as intervening topography or barriers are not taken into account.

Table 5.10-10 Potential Construction Noise Impacts at Nearest Receptor

Receptor Location	Construction Stage	Composite Noise Level (dBA L_{eq}) at 50 feet	Distance (feet)	Composite Noise Level (dBA L_{eq})
Residential (South)	Paving	86.5	240	72.9
	Building Construction With Pile Driving	94.7	260	80.4
Commercial (East)	Paving	86.5	45	87.4
	Building Construction With Pile Driving	94.7	85	90.1

Source: LSA 2020.
Notes: dBA = A-weighted decibels; L_{eq} = average A-weighted hourly noise level

Composite noise levels during construction at the nearest residential land uses to the south would reach 72.9 dBA L_{eq} and 80.4 dBA L_{eq} during the paving and building construction with pile driving stages, respectively. It is expected that composite noise levels during construction at the nearest commercial land uses to the east would reach 87.4 dBA L_{eq} and 90.1 dBA L_{eq} during the paving and building construction with pile driving stages, respectively. These predicted noise levels would only occur when all construction equipment is operating simultaneously at the closest point of construction and therefore, are conservative in nature. Further, proposed construction activities are regulated by the Municipal Code. Specifically, construction activities would be allowed only between 7:00 a.m. and 7:00 p.m., Mondays through Fridays, and between 9:00 a.m. and 6:00 p.m. on Saturdays. No construction is permitted outside of these hours or on Sundays and specified Federal holidays, including New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (PPP N-2 and SCA CONST HRS-2).

In addition, construction-related noise impacts would remain below the 90 dBA L_{eq} and 100 dBA L_{eq} 1-hour construction noise level criteria as established by the FTA for residential and commercial land uses, respectively, and therefore would be considered less than significant. As such, short-term construction impacts associated with the project would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.10-2 Long-term operational noise generated by the proposed project would not exceed applicable standards. [Threshold N-1]

Impact Analysis:

Mobile Noise

Long-term operational noise generated by the project was modeled using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108); refer to Appendix K. Noise levels were modeled for:

- Existing conditions with and without the project (Noise/Vibration Analysis Table L, *Existing Traffic Noise Levels Without and With Project*);
- Future short-term cumulative year (2027) with and without the project (Noise/Vibration Analysis Table M, *Future Short-Term Cumulative Year (2027) Pending Without and With Project*); and
- Buildout-year (2040) with and without the project (Noise/Vibration Analysis Table N, *Build Out Year (2040) Without and With Project*).

The modeled noise levels are representative of the worst-case scenario with no shielding provided between the generated traffic and location where the noise contours are drawn. As shown in Noise/Vibration Analysis Table L, *Existing Traffic Noise Levels Without and With Project*, project-related noise would generally increase existing ambient noise levels along study area roadway segments by approximately 1 dBA CNEL or less, except for:

- An increase of approximately 2.7 dBA CNEL along Sunflower Avenue from Project Driveway 1 to Project Driveway 2;
- 4.3 dBA CNEL along Sunflower Avenue from Project Driveway 2 to Project Driveway 3; and
- 3.8 dBA CNEL along Sunflower Avenue from Project Driveway 3 to Hyland Avenue.

Noise level increases above 3 dBA may be perceptible to some people in an outdoor environment, but the expected increase is less than the readily perceptible threshold of 5.0 dBA. Additionally, all uses along Sunflower Avenue are commercial and industrial in nature and do not have noise-sensitive exterior areas. Therefore, traffic noise impacts from project-related traffic on off-site sensitive receptors would be less than significant, and no mitigation measures are required.

Building Reflection

The project would demolish the existing industrial building and construct taller buildings in their place. The proposed buildings would potentially expose existing residences to the south (across the I-405 Freeway) to higher traffic noise levels due to reflection of noise off the proposed buildings' façades. To determine the future noise impacts from building reflection to the noise sensitive uses, a three-dimensional (3D) noise model, SoundPLAN, was used to incorporate the site topography, future traffic volumes, and reduction provided by the existing noise barrier (currently in construction for a replacement) on the southbound side of the I-405 Freeway. Existing traffic volumes along the I-405 Freeway were obtained from the California Department of Transportation (Caltrans) Performance Measurement System (PeMS). The vehicle mix on the I-405 Freeway was obtained from Annual Average Daily Truck Traffic (AADTT) on the California State Highway System

(CSHS). Refer to Appendix K for the full methodology utilized in the SoundPLAN noise model. As modeled, the projected increase in traffic noise levels due to increased reflection of traffic noise would be no greater than 0.6 dBA at the existing residences to the south. As stated, a noise level increase of 3 dBA is considered barely perceptible in an outdoor environment, and an increase of 1 dBA cannot be perceived except in carefully controlled interior settings (e.g., laboratory experiments). Therefore, traffic noise impacts from project-related increase in noise reflection would be less than significant, and no mitigation measures are required.

Mechanical Equipment

The proposed buildings would include rooftop heating, ventilation, and air conditioning (HVAC) units, which could operate 24 hours per day. Rooftop HVAC equipment would generate a noise level of approximately 71 dBA L_{eq} at 5 feet.

The closest off-site residences to where the HVAC units would potentially be installed are located on the southbound side of the I-405 Freeway, approximately 350 feet to the south of the project site. The on-site HVAC equipment would be shielded by four foot parapets and would be placed on the rooflines, which would provide additional noise level reduction by blocking the direct travel of the noise from the HVAC units to these sensitive receptors. SoundPLAN modeling was conducted to calculate the noise levels at the nearest off-site residential uses from the on-site HVAC equipment with four foot parapets; refer to Appendix K. The model demonstrates that, at the nearest off-site residential uses, noise levels from HVAC equipment would approach approximately 30 dBA L_{eq}. This noise level would not exceed the City's exterior daytime (7:00 a.m. to 11:00 p.m.) or nighttime (11:00 p.m. to 7:00 a.m.) noise standards of 55 dBA L_{eq} and 50 dBA L_{eq}, respectively. Therefore, noise levels from rooftop mechanical equipment would be less than significant.

Truck Loading Dock Activities

A truck loading area in the interior of the project (on the southeastern portion of the project site) is proposed. The truck loading dock activity analysis conservatively assumes that loading activities could occur during any hour of the day and could last for up to 30 minutes. Typical truck loading activities generate a noise level of approximately 95 dBA L_{max} at 5 feet.

The closest off-site uses are the residences on the southbound side of the I-405 Freeway, approximately 480 feet from the nearest proposed truck loading area location. SoundPLAN modeling demonstrates that noise levels from loading activities would approach 47 dBA L_{eq} at the nearest off-site residential land uses; refer to Appendix K. Therefore, this noise level would not exceed the City's exterior daytime (7:00 a.m. to 11:00 p.m.) noise standard of 55 dBA L_{eq}. Although nighttime loading is not expected to occur, the analysis indicates that this noise level also would not exceed the City's nighttime (11:00 p.m. to 7:00 a.m.) noise standard of 50 dBA L_{eq}. Thus, a less than significant impact would occur in this regard.

Composite Noise Levels

Table 5.10-11, *Composite Noise Levels at Nearest Receptor,* presents a summary of the composite noise levels at the nearest off-site residential uses to the south. As shown in Table 5.10-11, assuming a conservative scenario in which both HVAC equipment and loading area operations occur during nighttime hours, the noise impacts

associated with the proposed project would not cause an increase in noise experienced at these off-site residential uses to the south. Therefore, impacts in this regard would be less than significant.

Table 5.10-11 Composite Noise Levels at Nearest Receptor

Receptor Location	Stationary Noise Sources		Traffic Noise[1] ($dBA L_{eq}$)	Composite Noise Level ($dBA L_{eq}$)
	HVAC Equipment ($dBA L_{eq}$)	Loading Area ($dBA L_{eq}$)		
Residential uses south of the I-405 Freeway	30.0	47.0	58.0	58.0

Source: LSA 2020.
Notes: dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level
1 Typical nighttime noise levels from the I-405 Freeway as modeled at the residential uses to the south, measured from the center of the rear yards as detailed in Appendix K.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.10-3: The project would not generate excessive short- or long-term groundborne vibration or noise. [Threshold N-2]

Impact Analysis:

Construction

Construction activities would temporarily generate groundborne vibration in the project vicinity. Table 5.10-12, *Vibration Source Amplitudes for Construction Equipment*, provides context of vibration levels expected from typical construction equipment. For example, a large bulldozer would generate approximately 0.089 PPV of groundborne vibration at 25 feet and a pile driver would generate up to 1.518 PPV when measured at 25 feet.

Table 5.10-12 Vibration Source Amplitudes for Construction Equipment

Equipment		Reference PPV (in/sec) at 25 feet
Pile Driver	(impact, upper range)	1.518
	(impact, typical)	0.644
Hoe Ram		0.089
Large Bulldozer		0.089
Caisson Drilling		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Small Bulldozer		0.003

Source: LSA 2020.
Notes: in/sec = inches per second; PPV = peak particle velocity

Per the FTA thresholds, it would take a minimum of 0.2 in/sec PPV for a non-engineered timber and masonry building, and a minimum of 0.3 in/sec PPV for an engineered concrete or masonry building to potentially cause architectural damage.

The closest structures to the project site are existing commercial buildings to the east, approximately 85 feet from the proposed pile driving activities. These buildings are assumed to be engineered concrete and masonry. At this distance, pile driving operations is estimated to generate groundborne vibration levels of up to 0.242 in/sec PPV and would not exceed the 0.3 in/sec PPV threshold. A less than significant impact would occur in this regard.

Operations

Operational groundborne vibration typically occurs for uses like railroads or subways. Upon project completion, the proposed mixed-use and creative office buildings and open space would not generate groundborne vibration, and thus, no impact would occur.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.10-4: The proximity of the project site to the John Wayne Airport would not result in exposure of future residents and/or workers to excessive airport-related noise. [Threshold N-3]

Impact Analysis:

As stated, the closest airport to the project site is JWA, approximately 3.4 miles to the southeast in the City of Santa Ana. The project site is located outside the 60 dBA CNEL noise contour of JWA (LSA 2020), and thus, no impacts would occur in this regard.

Level of Significance Before Mitigation: No Impact.

5.10.5 Cumulative Impacts

Impact 5.10-5: Cumulative construction activities would not result in temporary noise increases that could exceed applicable standards. [Threshold N-1]

Impact Analysis:

Construction activities associated with the proposed project and cumulative projects may overlap, resulting in construction noise in the project vicinity. However, construction noise impacts primarily affect the areas immediately adjacent to the construction site. The closest project to the proposed project would be the VANS Headquarter Expansion Project located at 1588 South Coast Drive, over 950 feet to the east. At this distance, it is expected that short-term construction noise impacts related to the VANS Headquarter Expansion Project would not be audible at the sensitive receptors potentially affected by the proposed project. Further, construction activities at the VANS Headquarter Expansion Project, and all related projects within the City, would be required to comply with the City's allowable construction hours pursuant to Municipal Code Section 13-279, and mitigate their respective construction noise impacts, as required. As the project's construction noise impacts would be less than significant, the project's cumulative impacts in this regard would not be cumulatively considerable. A less than significant impact would occur.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.10-6 Implementation of the proposed project, in combination with related projects, would not result in a cumulatively significant long-term operation-related noise impacts. [Threshold N-1]

Impact Analysis:

Mobile Noise

A project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) thresholds. The cumulative effects of the proposed project are detailed under the build out year (2040) without and with project conditions; refer to Noise/Vibration Analysis Table N, *Build Out Year (2040) Without and With Project*. This comparison accounts for the traffic noise increase generated by the proposed project combined with traffic noise increases generated by cumulative projects.

As shown in Noise/Vibration Analysis Table N, the maximum dBA increase due to the proposed project would be approximately 4.0 dBA (58.8 dBA versus 62.8 dBA) at Sunflower Avenue from Project Driveway 2 to Project Driveway 3 segment. As noted above, noise level increases above 3.0 dBA may be perceptible to some people in an outdoor environment, but the expected increase is less than the readily perceptible threshold of 5.0 dBA. In addition, it should be noted that the land uses along this roadway segment (Sunflower Avenue) are commercial and industrial in nature. The "Build Out Year (2040) with Project" noise level along this segment would be 62.8 dBA, which is below the top range of the land use compatibility for "Normally Acceptable CNEL" thresholds (Table 5.10-2) for mixed-use (50-65 dBA) and office buildings, business commercial, and professional (50-67.5 dBA) uses. Therefore, the project, in combination with related projects, would not result in significant cumulatively considerable traffic noise impacts.

Stationary Noise

Although cumulative projects have been identified within the project vicinity, noise generated by stationary sources on a given site cannot be quantified due to the speculative nature of each development. Each cumulative project would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. Additionally, as noise dissipates as it travels away from its source, noise impacts from stationary sources would be limited to each of the respective sites and their vicinities. The nearest cumulative project to the project site would be the VANS Headquarter Expansion Project located over 950 feet to the east. At this distance, any stationary noise from the proposed project would be attenuated and dissipate rapidly before reaching the VANS Headquarter Expansion site. As such, cumulative stationary noise impacts would not occur due to distance and intervening structures and traffic noise. As noted above, the proposed project would not result in significant stationary noise impacts that would significantly affect surrounding sensitive receptors. Thus, the proposed project would not result in cumulatively considerable stationary noise impacts. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.10-7: Implementation of the proposed project, in combination with related projects, would not cumulatively create excessive long-term or short-term groundborne vibration and groundborne noise. [Threshold N-2]

Impact Analysis:

As stated above, construction activities associated with the proposed project and cumulative projects may overlap. However, cumulative development projects would be required to conduct project-specific analysis to determine potential impacts and implement any required mitigation measures that may be deemed necessary on a project-by-project basis. Despite the potential for overlap, groundborne vibration generated at the project site during construction would not exceed the FTA's 0.3-in/sec PPV threshold. The nearest cumulative project is located at 1588 South Coast Drive, over 950 feet to the east. Given the distance, no cumulative short- or long-term vibration impacts would occur. As such, the project's contribution to cumulative vibration impacts would be less than cumulatively considerable.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.10-8: Project development, in combination with related projects, would not cumulatively expose future residents and/or workers to excessive airport-related noise. [Threshold N-3]

Impact Analysis:

As stated, the closest airport to the project site is JWA, approximately 3.4 miles to the southeast in the City of Santa Ana. The project site is located outside the 60 dBA CNEL noise contour of JWA, and thus, no impacts would occur. Therefore, the project's contribution to cumulative airport-related noise hazards would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.10.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be less than significant: Impacts 5.10-1 through 5.10-8.

5.10.7 Mitigation Measures

No mitigation measures are required.

5.10.8 Level of Significance After Mitigation

Impacts would be less than significant.

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NOISE

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Chapter 5.11 Population and Housing

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5.11 POPULATION AND HOUSING

This section of the Draft EIR examines the potential socioeconomic effects of the proposed project, including changes in population, employment generation, and demand for housing. This section evaluates the proposed project's relationship to regional and local housing and jobs policies of the Southern California Association of Governments (SCAG) and the adopted General Plan, with a particular emphasis on jobs-housing balance in the City and County. For information purposes, the population and employment projections discussed in the *Summary Memorandum – Fiscal Impacts Resulting from the Proposed One Metro WEST Community at 1683 Sunflower Avenue (Former Robinson Pharma)* (Fiscal Memorandum), prepared by David Taussig & Associates (DTA), dated December 12, 2018, has been referenced where relevant.

5.11.1 Environmental Setting

5.11.1.1 REGULATORY BACKGROUND

Regional

Southern California Association of Governments

SCAG is the responsible agency for developing and adopting regional housing, population, and employment growth forecasts for local governments from Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties.

SCAG's demographic data is developed to enable the proper planning of infrastructure and facilities to adequately meet the needs of anticipated growth. On April 7, 2016, SCAG adopted its *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS), which presents the transportation vision for the SCAG region through the year 2040 and provides a long-term investment framework for balancing future mobility and housing needs with economic, environmental and public health goals.

Regional Housing Needs Assessment (RHNA)

State law requires jurisdictions provide their fair share of regional housing needs. The State of California Department of Housing and Community Development (HCD) is mandated to determine the Statewide housing need. In cooperation with HCD, local governments and Councils of Governments (e.g., SCAG) are charged with making a determination of the existing and projected housing needs as a share of the Statewide housing need of their city or region.

The Regional Housing Needs Assessment (RHNA) is an assessment process performed periodically as part of housing element and general plan updates at the local level. The RHNA quantifies the housing need by income group within each jurisdiction during specific planning periods. The *5th Cycle Final RHNA Allocation Plan* was adopted by the SCAG Regional Council on October 4, 2012 and covers the planning period from October 15, 2013 to October 15, 2021. The 6th RHNA cycle covers the housing element planning period from October 2021 through October 2029. The *Draft 6th Cycle RHNA Allocation Plan* is anticipated to be distributed in

February 2020 with final adoption in October 2020. Housing elements for the 6th cycle RHNA are due to the HCD in October 2021.

The RHNA allows communities to anticipate growth, so that collectively the region can grow in ways that enhance quality of life, improve access to jobs, promote transportation mobility, and address social equity and fair share housing needs.

Local

City of Costa Mesa 2013-2021 Housing Element

The purpose of a housing element is to set forth policies and programs to encourage and facilitate housing development and preservation. Some of the State-required issues to be analyzed in a housing element include affordability, overcrowding, overpayment, governmental constraints, and opportunities for housing for people with disabilities and those experiencing homelessness. The *City of Costa Mesa 2013-2021 Housing Element* (Housing Element) was adopted on January 21, 2014, and includes data demonstrating housing issues and trends in Costa Mesa, an inventory of resources pertaining to the existing conditions of the City, and specific housing goals, policies, and objectives.

The Housing Element includes the following goals, objectives, and policies relevant to the proposed project:

- **Policy HOU-1.1:** Develop standards and/or guidelines for new development with emphasis on site (including minimum site security lighting) and building design to minimize vulnerability to criminal activity.
- **Policy HOU-2.2:** Promote the use of State density bonus provisions to encourage the development of affordable housing for lower and moderate-income households, as well as senior housing.
- **Policy HOU-3.1:** Encourage the conversion of existing marginal or vacant motels, commercial, and/or industrial land to residential, where feasible and consistent with environmental conditions that are suitable for new residential development.
- **Policy HOU-3.2:** Provide opportunities for the development of well-planned and designed projects which, through vertical or horizontal integration, provide for the development of compatible residential, commercial, industrial, institutional, or public uses within a single project or neighborhood.
- **Policy HOU-3.3:** Cooperate with major employers, the Chamber of Commerce, and major commercial and industrial developers to identify and implement programs to balance employment growth with the ability to provide housing opportunities affordable to the incomes of the newly created jobs.

According to the *5th Cycle Final RHNA Allocation Plan*, SCAG determined the housing needs of the City for the 2014-2021 projection period to be:

- One unit: Extremely Low/Very Low Income (up to 50 percent of area median income [AMI]); and
- One unit: Low Income (51 to 90 percent of AMI).

As detailed in the Housing Element, the City identified underutilized sites in the 19 West Urban Plan area with the capacity to accommodate 75 units. Furthermore, Sakioka Lot 2 has the potential to accommodate 739 units, which is more than adequate to accommodate the City's 2014-2021 RHNA requirements.

5.11.1.2 EXISTING CONDITIONS

Population

Population Trends

Table 5.11-1, *Population Trends*, exhibits the population growth trends in the City and County (DOF 2019). According to the California Department of Finance (DOF), population has steadily increased in the City from 2010 to 2017 (with the exception of a slight decrease of 0.09 percent from 2017 to 2018). The County has experienced a steady increase in population from 2010 to 2019 with the largest percentage increase from 2011 to 2012 at 1.19 percent.

Table 5.11-1 Population Trends

	City of Costa Mesa		County of Orange	
Year	Population	Percent Change	Population	Percent Change
2010	109,960	—	3,010,232	—
2011	110,468	0.46	3,040,125	0.99
2012	111,661	1.08	3,076,373	1.19
2013	112,797	1.02	3,109,213	1.07
2014	112,858	0.05	3,131,411	0.71
2015	114,048	1.05	3,155,578	0.77
2016	114,609	0.49	3,174,945	0.61
2017	114,637	0.02	3,199,509	0.77
2018	114,536	-0.09	3,213,275	0.43
2019	115,830	1.13	3,222,498	0.29

Source: DOF 2019.

Notes:
1 It is acknowledged that the project's Fiscal Memorandum identifies the 2018 estimated City population to be 115,296.

SCAG Population, Housing, and Employment Projections

SCAG's regional forecast population, housing, and employment projections for 2012 and 2040 for the City and County are shown in Table 5.11-2, *SCAG Population, Housing, and Employment Projections*. Population, housing, and employment are anticipated to grow within the City and County over the next two decades. Specifically, SCAG anticipates the City's population, housing, and employment to increase by 5,200 people, 2,500 units, and 8,800 jobs between 2012 and 2040 (SCAG 2016).

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Table 5.11-2 SCAG Population, Housing, and Employment Projections

		2012	2040	Change, 2012-2040	Percent Change, 2012-2040
County of Orange	Population (persons)	3,072,000	3,461,000	389,000	12.66
	Housing (units)	999,000	1,152,000	153,000	15.32
	Employment (jobs)	1,526,500	1,898,900	372,400	24.4
City of Costa Mesa	Population (persons)	111,200	116,400	5,200	4.68
	Housing (units)	40,000	42,500	2,500	6.25
	Employment (jobs)	84,400	93,200	8,800	10.43

Source: SCAG 2016.
Notes: It is acknowledged that the project's Fiscal Memorandum identifies the 2018 estimated City employment to be 85,940 jobs.

Housing

As shown in Table 5.11-3, *Existing Housing Units*, the DOF estimates there are currently approximately 43,406 housing units in the City and 1,104,164 housing units Countywide (DOF 2019). Characteristics of occupied and vacant housing units in the City and County are also shown in Table 5.11-3.

Table 5.11-3 Existing Housing Units

	City of Costa Mesa	Orange County
By Unit Type		
Single-Family Detached	17,049	554,030
Single-Family Attached	4,362	131,446
Two to Four	5,695	94,403
Five Plus	15,370	290,766
Mobile Homes	930	33,519
Total (units)	**43,406**	**1,104,164**
Average Household Size	2.73	3.03
Vacancy Rate	4.4 percent	5.2 percent

Source: DOF 2019.

SCAG housing projections for the County and City are detailed in Table 5.11-2 and show an increase of 153,000 and 2,500 units, respectively, by 2040.

Employment

According to the U.S. Census Bureau's *2013–2017 American Community Survey 5-Year Estimates*, Table 5.11-4, *City Employment by Industrial Sector (2017)*, details the City's estimated employment in 2017 based on industrial sectors. The industrial sector with the most number of jobs is retail trade (10.9 percent).

Table 5.11-4 City Employment by Industrial Sector (2017)

Industry Sector	City of Costa Mesa	
	Jobs	Percent of Total Jobs
Retail Trade	6,904	10.9
Accommodation and Food Services	6,759	10.7
Professional, Scientific, and Technical Services	6,496	10.3
Manufacturing	6,037	9.6
Health Care and Social Assistance	5,926	9.4
Administrative and Support and Waste Management Services	4,778	7.6
Educational Services	4,429	7.0
Other Services, Except Public Administration	3,966	6.3
Finance and Insurance	3,456	5.5
Construction	3,216	5.1
Real Estate and Rental Leasing	2,274	3.6
Arts, Entertainment and Recreation	2,144	3.4
Wholesale Trade	2,013	3.2
Transportation and Warehousing	1,499	2.4
Public Administration	1,319	2.1
Information	1,149	1.8
Agriculture, Forestry, Fishing and Hunting	441	0.7
Utilities	287	0.5
Mining, Quarrying, and Oil and Gas Extraction	72	0.1
Management of Companies and Enterprises	40	0.1
Total	**63,205**	**100%**

Source: USCB 2017.

However, a more accurate estimate of the City's 2018 employment was calculated in the project's Fiscal Memorandum, which was approximately 85,940 jobs (DTA 2018).

SCAG employment projections for the County and City are detailed in Table 5.11-2 and show an increase of 372,400 and 8,800 jobs, respectively, by 2040.

Jobs-Housing Balance

The jobs-housing ratio is a general measure of the total number of jobs and housing units in a defined geographic area, without regard to economic constraints or individual preferences. The balance of jobs and housing in an area, in terms of the total number of jobs and housing units as well as the type of jobs versus the price of housing, has implications for mobility, air quality, and the distribution of tax revenues. The jobs-housing ratio is one indicator of a project's effect on growth and quality of life in the project area. SCAG applies the jobs-housing ratio at the regional and subregional levels to analyze the fit between jobs, housing, and infrastructure. A major focus of SCAG's regional planning efforts has been to improve this balance. SCAG defines the jobs-housing balance as follows:

> Jobs and housing are in balance when an area has enough employment opportunities for most of the people who live there and enough housing opportunities for most of the people who

> work there. The region as a whole is, by definition, balanced…. Job-rich subregions have ratios greater than the regional average; housing-rich subregions have ratios lower than the regional average.
>
> Ideally, job-housing balance would… assure not only a numerical match of jobs and housing but also an economic match in type of jobs and housing.

Jobs-housing goals and ratios are advisory only. No ideal jobs-housing ratio is adopted in State, regional, or City policies. However, SCAG considers an area balanced when the jobs-housing ratio is 1.36; communities with more than 1.36 jobs per dwelling unit are considered job-rich; those with fewer than 1.36 are housing-rich (Weitz 2003). A jobs-housing imbalance can indicate potential air quality and traffic problems associated with commuting, among others.

As shown in Table 5.11-5, *Jobs-Housing Ratio*, the jobs-housing ratio in the City is forecasted to increase slightly between 2012 and 2040 from 2.11 to 2.19. The City is shown to have a disproportionate number of employment opportunities to housing and is expected to remain job-rich.

Table 5.11-5 Jobs-Housing Ratio

Jurisdiction	Year	Employment (jobs)	Housing (units)	Jobs-Housing Ratio
City of Costa Mesa	2012	84,400	40,000	2.11
	2040	93,200	42,500	2.19
County of Orange	2012	1,526,500	999,000	1.53
	2040	1,898,900	1,152,000	1.65

Source: SCAG 2016.

Furthermore, as shown in Table 5.11-5, the County is also expected to increase its jobs-housing ratio between 2012 and 2040 from 1.53 to 1.65, and would continue to be job-rich.

5.11.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

PH-1 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).

PH-2 Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

No impacts relating to Threshold PH-2 were identified, as substantiated in Chapter 8, *Impacts Found Not to Be Significant*. This threshold will not be addressed in the following analysis.

5.11.3 Plans, Programs, Policies, and Standard Conditions of Approval

There are no plans, policies, programs (PPP), or standard conditions of approval (SCA) applicable to the project related to population and housing impacts.

5.11.4 Environmental Impacts

5.11.4.1 METHODOLOGY

The proposed project's demographics are examined in the context of existing and projected populations for the County and City and consider consistency with the growth projections in the 2016-2040 RTP/SCS and General Plan. Information on population, housing, and employment is obtained from several sources, including the U.S. Census, California DOF, and SCAG.

Potential project impacts were evaluated relative to the City and County's existing and projected population, housing, employment, and jobs-housing balance. The proposed project would be considered consistent with the General Plan and 2016-2040 RTP/SCS if it is compatible with the general intent of such plans and would not preclude attainment of their primary goals.

5.11.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which there may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.11-1: The proposed project would not directly or indirectly result in substantial unplanned population growth in the project area. [Threshold PH-1]

Impact Analysis:

The project proposes to develop a mixed-use community with residential, specialty retail, and creative office uses that would provide housing near jobs in a campus-like setting with on-site amenities, a 1.5-acre open space area, and pedestrian and bicycle connections to adjacent uses. Buildout of the Specific Plan would allow up to 1,057 multi-family residential units, 25,000 square feet of creative office space, and 6,000 square feet of specialty retail space. A minimum of 105 of the proposed units would be provided as affordable housing and would assist the City in meeting its RHNA requirements.

Population

According to Table 5.11-4, the City has an average household size of 2.73 residents per dwelling unit. Using this average, the proposed 1,057 units have the potential to support up to 2,886 residents. Additionally, the proposed 25,000 square feet of creative office space and 6,000 square feet of specialty retail space would generate employment opportunities that could directly increase the City's population (e.g., future employees relocating to the City). Approximately 129 jobs associated with the creative office, specialty retail, community room, and leasing office would be created; refer to Table 5.11-6, *Project-Generated Employment*.

Table 5.11-6 Project-Generated Employment

Non-Residential Land Use	Square Feet	Square Feet per Employee	Total Employees
Creative Office	25,000	287	88
Specialty Retail	6,000	704	9
Community Room	1,500	325	5
Leasing Office	Not Applicable	Not Applicable	27[1]
		Total Employees	**129**

Source: SCAG 2001.
1 Estimated number of employees for the leasing office were provided by Competitive Analytics.

The existing industrial building currently employs up to 70 workers; therefore, the project would result in a net increase of 59 jobs. Many factors influence personal housing location decisions (i.e., family income levels and the cost and availability of suitable housing in the local area). Further, many future project employees could already live in Costa Mesa. Thus, it would be highly speculative to estimate the number of future employees who would relocate to the City. Conservatively assuming all employees relocate to the City, project implementation could result in a population increase of 2,945 people.

As shown in Table 5.11-2, SCAG projects the City's population to increase from 111,200 to 116,400 people by 2040, an increase of approximately 5,200 people. Thus, the residents and employees of the proposed project would account for approximately 57 percent of the population growth forecasted by SCAG in Costa Mesa between 2012 and 2040.

It should also be noted the project is located in an urban area with existing infrastructure that can support the proposed infill development. All proposed infrastructure improvements (i.e., sewer, water, and storm drains) are located on-site to support anticipated growth generated by the project. The potential physical environmental impacts of such improvements are analyzed in Section 5.15, *Utilities and Service Systems*. No additional infrastructure improvements (e.g., roadways and utilities) would be implemented that could indirectly induce population growth elsewhere in the City.

Employment

Construction

Project construction would generate temporary employment opportunities, including short-term design, engineering, and construction jobs. Construction-related jobs would not result in a significant population increase as they would be filled by workers in the region and would only last for the duration of the construction and design stage. Additionally, it is unlikely that workers would relocate as permanent residents of Costa Mesa for temporary jobs. Therefore, temporary construction-related jobs would not result in a substantial population increase in the City, and impacts would be less than significant.

Operation

As stated above, the project would generate approximately 59 net jobs at full buildout. Table 5.11-2 shows employment within the City is anticipated to increase from 84,400 jobs in 2012 to 93,200 jobs in 2040, an

increase of approximately 8,800 jobs. As such, the project-generated jobs would represent only approximately 0.7 percent of the City's anticipated employment growth. Therefore, project-related employment growth impacts are anticipated to be less than significant.

Jobs-Housing Balance

As shown in Table 5.11-7, *Projected Jobs-Housing Balance*, project implementation would reduce the City's jobs-housing ratio from 2.19 to 2.14 in 2040. The project would improve the City's jobs-housing ratio by introducing more housing in a job-rich area. Furthermore, the project would place additional needed housing nearby a major employment center. Additionally, as shown in Table 5.11-7, project buildout would not affect the County's anticipated jobs-housing balance in 2040 as it would remain 1.65.

Table 5.11-7 Projected Jobs-Housing Balance

	Year	Employment	Housing	Jobs-Housing Ratio
City of Costa Mesa	2012	84,400	40,000	2.11
	2040	93,200	42,500	2.19
	Net Increase from Proposed Project	59	1,057	Not Applicable[1]
	2040 With Proposed Project	93,259	43,557	2.14
County of Orange	2012	1,526,500	999,000	1.53
	2040	1,898,900	1,152,000	1.65
	Net Increase from Proposed Project	59	1,057	Not Applicable
	2040 With Proposed Project	1,898,959	1,153,057	1.65

Source: SCAG 2016.
1 Jobs-housing ratios are identified for regions and subregions and are not applicable to an area as small as the project site.

Overall, buildout of the proposed project would introduce up to 2,945 people (residents and workers), 1,057 dwelling units, and 59 net jobs in Costa Mesa. The proposed residential community would provide housing in a job-rich City and County and provide an opportunity for existing and future employees to live close to where they work. The anticipated population and employment growth generated by the project would be within SCAG projections for year 2040.

It is acknowledged that the City's 6th cycle RHNA allocations will substantially increase from its 5th cycle allocation of two low income units. Thus, the City anticipates Citywide policy changes to accommodate more housing in infill and mixed-use environments to meet its RHNA requirements for the next planning period from 2021 through 2029. Given the project would provide a minimum of 105 units as affordable housing, the project would help the City meet its affordable housing allocations and contribute towards the City's future housing goals.

Given the proposed General Plan Amendment and Zone Change from industrial to residential use, it is acknowledged that the project involves unplanned population growth outside of the scope of the General Plan and SCAG projections. However, the environmental impacts of such unplanned population growth are evaluated, planned for, and mitigated as part of the project throughout this EIR. Additionally, implementation of the proposed project would not induce indirect unplanned population growth. The project would not result in land use changes that substantially increase employment opportunities, nor implement any new policies that

could induce substantial unplanned population growth. Further, the project site is situated within an urban area and would not install new infrastructure that could induce population growth. Thus, impacts would be less than significant in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.11.5 Cumulative Impacts

Impact 5.11-2 Development of the proposed project and related projects would not result in cumulatively considerable impacts related to substantial unplanned population growth. [Threshold PH-1]

Impact Analysis:

Cumulative impacts involving population and housing are analyzed in terms of consistency with SCAG growth assumptions for Costa Mesa. As stated above, the project would introduce up to 2,945 additional people (residents and workers) and 1,057 additional dwelling units to the City. Although the project involves unplanned population growth outside of the scope of the General Plan and SCAG projections, the environmental impacts of such unplanned population growth are evaluated, planned for, and mitigated as part of the project throughout this EIR. Additionally, the project would not result in land use changes that substantially increase employment opportunities, nor implement any new policies that could induce substantial unplanned population growth. The project's population and employment growth would also be offset by the more substantial increase in housing units, a portion of which would include affordable housing to help meet the City's 6th cycle RHNA allocations. Additionally, the project does not involve any infrastructure improvements that would induce unplanned population growth elsewhere in the City. As such, development of the proposed project in conjunction with the related projects listed in Table 4-2, *Related Projects* would not result in cumulatively considerable unplanned population and housing impacts. It should be noted the proposed project would provide a mixed-use community with both housing and jobs in a concentrated employment area of Costa Mesa and would improve the jobs-housing balance in the City; refer to Table 5.11-7.

Related projects would be reviewed by the City and required to show consistency with adopted State and City plans and policies to minimize the effect of potential population and housing growth on the environment. The City would also continue to monitor the extent of residential and nonresidential development and monitor employment growth and housing production in order to enhance the jobs-housing balance in the City. Overall, the project would not result in cumulatively considerable impacts in this regard, and impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.11.6 Level of Significance Before Mitigation

The following impacts would be less than significant: Impacts 5.11-1 and 5.11-2.

5.11.7 Mitigation Measures

No mitigation measures are required.

5.11.8 Level of Significance After Mitigation

Impacts would be less than significant.

5. Environmental Analysis
POPULATION AND HOUSING

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Chapter 5.12 Public Services and Recreation

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5.12 PUBLIC SERVICES AND RECREATION

This section of the Draft EIR addresses the proposed project's impacts to public services and recreation, including fire protection and emergency services, police protection, school services, library services, and park facilities and recreational services (there is no separate "Recreation" section in this Draft EIR). The analysis in this section is based in part on the following correspondence:

- *Costa Mesa Fire & Rescue Department's analysis of the impacts and mitigation measures as a result of the One Metro West development at 1683 Sunflower Avenue*, Jon Neal, Fire Marshal, Costa Mesa Fire & Rescue, February 3, 2020; and

- *One Metro West Project Impacts to Police Services*, Bryan Glass, Acting Chief of Police, City of Costa Mesa Police Department, February 3, 2020.

Complete copies of this correspondence are provided in this Draft EIR (Volume II, Appendix L, *Public Services and Utilities Correspondence*). Public and private utilities and service systems, including water, wastewater, storm drain, and solid waste services and systems, are addressed in Section 5.15, *Utilities and Service Systems*.

5.12.1 Environmental Setting

5.12.1.1 REGULATORY BACKGROUND

Fire Protection and Emergency Services

State

California Fire Code

The California Fire Code (CFC; California Code of Regulations Title 24, Part 9) is based on the International Fire Code and contains complete regulations and general construction building standards, including administrative, fire and life safety, and field inspection provisions. The CFC is updated every three years; the 2019 CFC takes effect on January 1, 2020.

California Health and Safety Code Sections 13000 et seq.

Sections 13000 et seq. of the California Health and Safety Code include fire regulations for building standards (also in the California Building Code [CBC], California Code of Regulations Title 24 Part 2); fire protection and notification systems; fire protection devices, such as extinguishers and smoke alarms; high-rise building and childcare facility standards; and fire suppression training.

Local

General Plan

The Safety and Land Use Elements of the General Plan includes the following goals, objectives, and policies related to fire protection and emergency services within the City:

- **Goal S-2:** Provide a high level of security in the community to prevent and reduce crime, and to minimize risks of fire to people, property, and the environment.
  - **Objective S-2A:** Plan, promote, and demonstrate a readiness to respond and reduce threats to life and property through traditional and innovative emergency services and programs.
    - **Policy S-2.4:** Provide a high level of police and fire service in the community. Secure adequate facilities, equipment, and personnel for police and fire.
    - **Policy S-2.5:** Consult with neighboring jurisdictions and partner agencies to respond appropriately to emergencies and incidents in all parts of the City.
    - **Policy S-2.6:** Require that water supply systems for development are adequate to combat structural fires in terms of location and minimum required fire-flow pressures.
    - **Policy S-2.7:** Require development to contribute its fair share toward funding the provision of appropriate fire and emergency medical services as determined necessary to adequately serve the project.
    - **Policy S-2.9:** Emphasize prevention and awareness of fire safety guidelines to minimize risk and potential damage to life, property, and the environment. In areas designated by the Costa Mesa Fire & Rescue Department as having a high fire hazard, ensure adequate fire equipment, personnel, firebreaks, facilities, water, and access for a quick and efficient response in any area.
    - **Policy S-2.12:** Continue to maintain adequate police and fire staffing, facilities, equipment, and maintenance sufficient to protect the community.
  - **Objective LU-5A:** Ensure availability of adequate community facilities and provision of the highest level of public services possible, taking into consideration budgetary constraints and effects on the surrounding area.
    - **Policy LU.5.5:** Ensure that new development pays its fair share of impact fees such as park fees and traffic impact fees. This can also include impact fees related to community services (police protection services and fire emergency response services) or library facilities, once adopted and applicable.

Municipal Code

Municipal Code Title 5, *Buildings and Construction*, requires building construction activities to comply with all adopted State construction codes, including the CBC and CFC.

Municipal Code Sections 7-14, *Adoption of the California Fire Code*, adopt, with modifications, the triennially updated CFC. Municipal Code Section 13-270, *Establishment of Development Impact Fee*, details the City's development impact fee based on the Costa Mesa Fire Protection System Fee Study. The revenues raised by the development impact fee are used to fund fire protection facilities and equipment.

Police Protection Services

Local

General Plan

The Safety and Land Use Elements of the General Plan includes the following goals, objectives, and policies related to police protection services within the City:

- **Goal S-2:** Provide a high level of security in the community to prevent and reduce crime, and to minimize risks of fire to people, property, and the environment.
  - **Objective S-2A:** Plan, promote, and demonstrate a readiness to respond and reduce threats to life and property through traditional and innovative emergency services and programs.
    - **Policy S-2.1:** Promote crime prevention strategies and provide a high level of response to incidents.
    - **Policy S-2.2:** Emphasize and prioritize crime prevention strategies, such as pedestrian-scale lighting in targeted areas.
    - **Policy S-2.3:** Timely response to incidents and monitoring areas with high crime rates should be part of a comprehensive strategy to reduce crime in the community.
    - **Policy S-2.4:** Provide a high level of police and fire service in the community. Secure adequate facilities, equipment, and personnel for police and fire.
    - **Policy S-2.5:** Consult with neighboring jurisdictions and partner agencies to respond appropriately to emergencies and incidents in all parts of the City.
    - **Policy S-2.12:** Continue to maintain adequate police and fire staffing, facilities, equipment, and maintenance sufficient to protect the community.
  - **Objective LU-5A:** Ensure availability of adequate community facilities and provision of the highest level of public services possible, taking into consideration budgetary constraints and effects on the surrounding area.
    - **Policy LU.5.5:** Ensure that new development pays its fair share of impact fees such as park fees and traffic impact fees. This can also include impact fees related to community services (police protection services and fire emergency response services) or library facilities, once adopted and applicable.

School Services

State

Senate Bill 50

Senate Bill 50 (SB 50) was enacted in 1998 to address how schools are financed and how development projects may be assessed for associated school impacts. It has been incorporated into State law as Government Code Section 65995. SB 50 establishes a process for determining the amount of fees developers may be charged to mitigate the impact of development on school facilities resulting from increased enrollment and allows the State to offer funding to school districts to acquire school sites, construct new school facilities, and modernize existing school facilities.

SB 50 provides three ways to determine funding levels for school districts. The Newport-Mesa Unified School District (NMUSD) falls under the default level (Level 1) fee structure, which allows it to levy development fees to support school construction necessitated by development and receive a 50 percent match from State bond money. According to Government Code Section 65996, development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation."

Local

Newport-Mesa Unified School District Developer Fees

As stated above, NMUSD utilizes a Level 1 fee structure to establish developer fees anticipated to offset development impacts on existing NMUSD facilities and resources. Based on the current fee structure, NMUSD charges $1.84 per square foot of residential development and $0.30 per square foot of commercial development (NMUSD 2019).

Library Services

Local

General Plan

The Land Use Element of the General Plan includes the following goals, objectives, and policies related to library services within the City:

- **Objective LU-5A:** Ensure availability of adequate community facilities and provision of the highest level of public services possible, taking into consideration budgetary constraints and effects on the surrounding area.
    - **Policy LU.5.5:** Ensure that new development pays its fair share of impact fees such as park fees and traffic impact fees. This can also include impact fees related to community services (police protection services and fire emergency response services) or library facilities, once adopted and applicable.

Park Facilities and Recreation Services

State

California Public Park Preservation Act

The primary instrument for protecting and preserving parkland is the State's Public Park Preservation Act of 1971. Cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation, land, or both are provided to replace the parkland acquired. This ensures no net loss of parkland and facilities.

Quimby Act

The Quimby Act (Government Code Section 66477), established in 1965, provides provisions in the State Subdivision Map Act for the dedication of parkland and/or payment of in-lieu fees as a condition of approval of certain types of residential projects. The Quimby Act authorizes local jurisdictions to require dedication of parkland and/or payment of fees in the amount of up to three acres of parkland per 1,000 added residents; local jurisdictions may require higher ratios for affected development projects. Before 2018, a city or county could only use these fees to provide parks that served the developer's proposed subdivision. However, Assembly Bill 1359 (AB 1359), signed in 2013, allows cities and counties to use developer-paid Quimby Act fees to provide parks in neighborhoods other than the one in which the developer's subdivision is located. Overall, AB 1359 provides cities and counties with opportunities to improve parks and create new parks in areas that would not have benefited before. It also allows a city or county to enter a joint/shared use agreement with one or more public districts to provide additional park and recreational access.

Local

General Plan

The Open Space and Recreation Element of the General Plan includes the following goals, objectives, and policies related to park facilities and recreation services within the City:

- **Goal OSR-1:** Provide a high-quality environment through the development of recreation resources and preservation of open space that meets community needs in Costa Mesa.
    - **Objective OSR-1A:** Maintain and preserve existing parks, and strive to provide additional parks, public spaces, and recreation facilities that meet the community's evolving needs.
        - **Policy OSR-1.1:** Maintain a system of Neighborhood and Community Parks that provide a variety of active and passive recreational opportunities throughout the City.
        - **Policy OSR-1.2:** Provide parks and recreation facilities appropriate for the individual neighborhoods in which they are located and reflective of the needs and interests of the population they serve.
        - **Policy OSR-1.5:** Maximize public space by requiring plazas and public gathering spaces in private developments that can serve multiple uses, including recreation and social needs.

- **Policy OSR-1.6:** Provide maximum visibility and accessibility for future public parks by locating facilities in close proximity to public streets.
- **Policy OSR-1.8:** Require that parks and recreation facilities reflect new trends and population changes, and are developed with facilities appropriate to all ages, including athletic fields, active play areas, passive open space, tot lots, and picnic areas.
- **Policy OSR-1.13:** Design and reform parks to reflect the latest recreational features that respond to demographic changes and community needs.
- **Policy OSR-1.18:** Provide a minimum of 4.26 acres of parkland per 1,000 residents.
- **Policy OSR-1.20:** Enhance pedestrian, bicycle, and transit linkages to meet the needs of residents and to provide better access to parks, recreation, and public spaces.
- **Policy OSR-1.21:** Provide opportunities for public access to all open space areas, except where sensitive resources may be threatened or damaged, public health and safety may be compromised, or access would interfere with the managed production of resources.

Municipal Code

Municipal Code Article 5, *Park and Recreation Dedications*, requires dedication of land and/or payment of in-lieu fees by residential development projects meeting certain criteria in the amount of 4.26 acres per 1,000 residents added by such residential projects. The City's parkland standard is 4.26 acres per 1,000 residents; the City also arranges with the NMUSD to provide an additional 1.5 acres of school sites per 1,000 residents available for public park and recreation purposes.

Measure Z, passed in November 2016, adds Article 4 to Municipal Code Title 13, Chapter XII, *Special Fee Assessments*, to establish an open space and public park impact fee. The fee is applicable to all new development located both north of the I-405 Freeway and west of Fairview Drive and is due upon issuance of a certificate of occupancy. The fee is established to offset the impact of development upon recreational opportunities and is used solely for the purpose of increasing active recreation, open space, and public park facilities within the City.

5.12.1.2 EXISTING CONDITIONS

Fire Protection and Emergency Services

The Costa Mesa Fire & Rescue Department (CMFD) provides fire protection and emergency medical services to the project site. CMFD has six fire stations in the City that are staffed 24 hours a day, every day. The closest station that responds to calls at the project site is Station 1, located at 1570 Adams Avenue, approximately 2.8 miles south and recently reconstructed in 2018. The next closest station that responds to calls at the project site is Station 6, located at 3350 Sakioka Drive, approximately 4.2 miles east of the site (CMFD 2019a).

The CMFD currently has 84 full-time staff (78 sworn positions and six non-sworn positions) and part-time staff amounting to 3.25 full-time-equivalent positions (CMFD 2019b). In 2018, CMFD responded to 13,045 incidents, of which approximately 74 percent (9,639) were emergency medical services/rescue calls, 15 percent (1,918) were good intent calls,[1] two percent (261) were fire calls, and the remaining nine percent (1,227) were other types of calls (CMFD 2019c).

Automatic Aid

All fire departments in Orange County participate in an automatic aid agreement to ensure the closest resources are dispatched to an emergency. Automatic aid includes engines, trucks, paramedics, and battalion chiefs. The two nearest service areas of other departments to the project site are the Orange County Fire Authority (OCFA), which serves the nearby City of Santa Ana, and the Fountain Valley Fire Department, which serves the City of Fountain Valley. The nearest fire station, outside of the CMFD, to the project site is Fountain Valley Fire Department Station 2 at 16767 Newhope Street in Fountain Valley, approximately 2.7 miles to the north (OCFA 2019).

Emergency Response Planning

CMFD is responsible for emergency planning for the City. The City adopted the *City of Costa Mesa Emergency Operations Plan* (EOP) in July 2013. The EOP includes vulnerability assessments for a variety of hazards and roles and responsibilities of City officials in hazard mitigation and emergency preparedness, response, and recovery (Costa Mesa 2013).

Calls for Service and Response Times

According to CMFD, the existing industrial use on-site generated nine calls for service over the last five years. Six of the nine calls were false alarms, two of the calls occurred on Sunflower Avenue in front of the site, and one call was for a dumpster fire in the parking lot. The call history at the site is well below the standard for similar industrial uses (Neal 2020).

A Fire Services Deployment Analysis was also conducted for the proposed project, which included assessing historical response times to the project site and nearby neighborhoods. Historical incident response data to the project site was obtained from CMFD, and a geographic mapping travel time analysis model was conducted to compare projected travel time from existing fire stations and historical response times in the immediate area adjacent to the site. Based on the analysis, it was concluded that travel times to 90 percent of the calls for service from all CMFD fire stations ranged from 6:30 minutes to the project site, 9:31 minutes to the east of the site, 7:00 minutes to the north of the site, and 5:51 minutes to the northeast of the site. These times were aligned with the Geographic Information System (GIS) travel time model, which indicates that the project site, as well as the surrounding area, is not within the 4:00-minute travel time for first-due unit coverage based on City and national best practice goals for positive outcomes. Similar to the single-unit coverage scenario, the project site, as well as the surrounding area, is also not within the 8:00-minute travel time objective for the last-needed City unit to achieve a multiple unit Effective Response Force for the site based on City and national best practice

[1] Good intent calls are often mistakes, such as calls regarding steam or dust mistaken for smoke or multiple fire alarms pulled for one fire.

goals for positive outcomes. Overall, average response time to the project site is 10:43 minutes based on historical data. This is 2:13 minutes longer than a desirable urban best practices average response time goal of 7:30 minutes (Neal 2020). CMFD stated it is challenging to provide a faster response time to the project site, even from mutual aid fire stations, given the project's location alongside the I-405 Freeway and the Santa Ana River drainage channel. The project site, from a street network view, is similar to that of a large, dead-end, cul-de-sac (Citygate 2019).

Police Protection Services

The Costa Mesa Police Department (CMPD) provides police protection services to the City, including the project site. CMPD is divided into three department divisions: Administration, Field Operations, and Support Services. CMPD staffing currently consists of 212 full-time positions (136 sworn and 76 civilian positions), as well as part-time staff totaling to 21.76 full-time-equivalent positions. Based on the City's existing population and 136 sworn officers, the City's existing per capita ratio is 1.17 officers per 1,000 residents (Costa Mesa 2019f). The City is divided into two patrol areas; the project site is in Patrol Area 2.

In 2018, City crime statistics totaled 10,769 crimes, consisting of 4,051 Part 1 crimes and 6,718 Part 2 crimes (CMPD 2019).[2] The CMPD station is located at 99 Fair Drive about 4.9 miles southeast of the project site.

Mutual Aid Agreements

The City also participates in local mutual aid agreements under the Orange County Chiefs' of Police and Sheriff's Association (Costa Mesa 2013). The Orange County Sheriff's Department Law Enforcement Mutual Aid Bureau provides mutual aid to law enforcement agencies in Orange County (OCSD 2019). Participation in mutual aid agreements ensures CMPD and neighboring jurisdictions' police departments have additional support in regard to resources and staffing to respond to calls in the region.

School Services

The NMUSD boundary spans approximately 59 square miles and includes the cities of Costa Mesa and Newport Beach. NMUSD consists of 32 schools, including 22 elementary schools, two intermediate schools, two middle/high schools (grades 7-12), two high schools (grades 9-12), three alternative schools/programs, and one adult education program (partnered with the Huntington Beach Adult School). District-wide enrollment in the 2017-2018 school year was 20,641 students (CDE 2019).

The project site is located in the attendance boundaries of the three schools listed in Table 5.12-1, *NMUSD Schools Serving the Project Site*.

[2] Part I crimes consist of violent felonies such as homicide, rape, and robbery, and some serious property crimes such as larceny. Part II crimes are less serious offenses such as other assault, fraud, vandalism, and drug abuse violations.

Table 5.12-1 NMUSD Schools Serving the Project Site

School and Address	Grades	Enrollment (2017-2018)	Student Capacity			Residual Capacity
			Permanent Classrooms	Portable Classrooms	Total	
California Elementary School 3232 California Avenue, Costa Mesa	K-6	429	425	150	575	146
TeWinkle Middle School 3224 California Avenue, Costa Mesa	7-8	654	1,188	189	1,377	751
Estancia High School 2323 Placentia Avenue, Costa Mesa	9-12	1,269	1,971	0	1,971	703

Sources: NMUSD 2018a, 2018b, and 2018c. Calculations by JCJ Partners, LLC.

Library Services

The Orange County Public Library (OCPL) provides library services to the City, including the project site. OCPL has 33 branch libraries in 24 incorporated cities and unincorporated areas of the County and has a system-wide collection of approximately 2.5 million items (Orange 2005). The City has two branch libraries operated by OCPL: the Donald Dungan Library, located at 1855 Park Avenue, and the Mesa Verde Library, located at 2969 Mesa Verde Drive. The closest library to the project site is the Mesa Verde Library approximately 2.3 miles to the south.

OCPL has the following service standards: 0.2 square feet of library space per capita, 1.3 volumes per capita for library collections, and a circulation of 4.5 items per capita (Cowell 2014). OCPL is a special district governed by the Orange County Board of Supervisors and, thus, is funded mostly by taxes (e.g., property, sales, and utilities taxes) (Davis 2010).

Park Facilities and Recreation Services

The City's Parks and Community Services Department provides recreation services at City parks, and the City's Public Services Department maintains the City parks. Overall, the City maintains 30 parks, totaling approximately 415 acres. The nearest City parks to the project site include:

- *Moon Park*: The 1.7-acre Moon Park is located at 3377 California Street, about 500 feet west of the project site across the I-405 Freeway and adjacent to the Santa Ana River Trail. Moon Park has a playground and picnic tables (Costa Mesa 2019g).
- *Suburbia Park*: The 0.6-acre Suburbia Park is located at 3302 Alabama Circle, approximately 0.3 mile southwest of the project site and is an informal dog park (Costa Mesa 2019h).
- *Smallwood Park*: Smallwood Park is 3.4 acres and is located at 1646 Corsica Place, approximately 2.0 miles south of the project site. Smallwood Park has playgrounds, a softball field, picnic tables, and restrooms (Costa Mesa 2019i).

Additionally, Fairview Park, located at 2501 Placentia Avenue, is the largest City park in Costa Mesa, totaling 210 acres and is approximately 3.8 miles south of the project site. Amenities at Fairview Park include a miniature railroad, shelters, picnic tables, and restrooms (Costa Mesa 2019j).

Regional Recreation Facilities

Santa Ana River Trail

The Santa Ana River Trail extends 30 miles in Orange County from Huntington Beach to the Riverside County boundary and another 40 miles intermittently in parts of Riverside and San Bernardino counties (San Bernardino 2019). Several City parks have access to the Santa Ana River Trail, including Moon Park, Suburbia Park, Fairview Park, and Vista Park.

Near the project site, an access trail near Sunflower Avenue and Cadillac Avenue extends westerly towards the Santa Ana River Trail, located adjacent to the I-405 Freeway. The Santa Ana River channel is owned and operated by the Orange County Flood Control District and is not open to the public.

OC Parks Facilities

Talbert Regional Park is a 180-acre OC Parks facility consisting mostly of native habitat and a large trail system. The park is located at 1298 Victoria Street in Costa Mesa and abuts the southwest side of Fairview Park (OC Parks 2019a).

Mile Square Regional Park, a 607-acre urban park at 16801 Euclid Street in the City of Fountain Valley, is 2.8 miles north of the project site. Park amenities include three golf courses, three soccer fields, three baseball fields, three softball diamonds, an archery range, a nature area, two fishing lakes, bicycle and paddle boat concessions, and picnic areas with shelters (OC Parks 2019b).

5.12.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

PSR-1 Result in substantial adverse physical impacts associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for

i) Fire protection;

ii) Police protection;

iii) Schools;

iv) Other public facilities; or

v) Parks.

PSR-2 Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

PSR-3 Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

5.12.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to public services and recreation.

Fire Protection and Emergency Services

PPP FS-1 The proposed project is required to comply with the 2019 edition of the California Fire Code.

PPP FS-2 The proposed project is required to comply with Municipal Code Title 5, *Buildings and Structures*, and all adopted State construction codes.

PPP FS-3 The project is required to pay development impact fees established based on the Costa Mesa Fire Protection System Fee Study and as required in the Development Agreement.

SCA FIRE-25 The on-site hydrant(s) shall be attached to the underground mains of the fire sprinkler system or installed to the standards of the Mesa Water District and be dedicated along with repair easements to the Mesa Water District.

SCA FIRE-26 The applicant shall participate in the upgrading of fire protection facilities according to the formula developed by the Costa Mesa Fire & Rescue Department. The contribution shall be made prior to the issuance of building permits or as agreed in the Development Agreement.

SCA FIRE-7 The applicant shall provide Class A fire hydrant(s) according to the Costa Mesa Fire & Rescue Department reviewed and approved Fire Master Plan for the project.

SCA FIRE-8 Any required hydrants shall be installed and operable prior to the initiation of combustible construction.

SCA FIRE-9 Water improvement plans shall be approved by the Costa Mesa Fire & Rescue Department.

SCA FIRE-10 Water mains shall be of adequate size to deliver 1,000 gallons per minute simultaneously from the closest hydrants to any and all points of the development with a minimum residual pressure of 20 pounds per square inch.

SCA FIRE-13 Fire apparatus access roadways identified in the approved Fire Master Plan for the project shall be maintained with access to all fire hydrants from the time that the hydrants are placed into service. Special consideration shall be given to maintaining the integrity of such roadways during periods of inclement weather.

SCA FIRE-14 The applicant shall provide fire extinguishers with a minimum rating of 2A to be located within 75 feet of travel distance from all areas. Extinguishers may be of a type rated 2A, 10BC as these extinguishers are suitable for all types of fires and are less expensive.

SCA FIRE-15 The applicant shall provide approved smoke detectors to be installed in accordance with the latest edition of the Uniform Fire Code.

SCA FIRE-16 The applicant shall provide an approved automatic extinguishing system for all cooking surfaces, hoods, and ducts.

SCA FIRE-17 The applicant shall provide an automatic fire sprinkler system according to National Fire Protection Association requirements.

Police Protection Services

PPP PD-1 The project is required to pay development impact fees established based on the Citywide Fee Study and as required in the Development Agreement.

SCA PD-49 Outside security lighting shall be provided under the direction and upon the recommendation of the City of Costa Mesa Development Services Department and/or the Police Department.

SCA PD-58 The following list of security measures would be provided:

1. Cameras installed in all common areas and hallways.
2. Cameras monitored 24 hours per day, seven days a week, at a centralized location by the applicant's property management team.
3. In the afternoon and through the night (such as from 2:00 p.m. to 4:00 a.m.), a third party courtesy patrol walks and patrols the property.

School Services

PPP SS-1 The project applicant shall pay developer fees per square foot for residential and commercial construction pursuant to the Newport-Mesa Unified School District (NMUSD) requirements.

Library Services

No existing regulatory requirements, such as plans, policies, programs, or standard conditions of approval related to library services apply to the proposed project.

Park Facilities and Recreation Services

PPP PS-1 The proposed project shall comply with Government Code Section 66477 (Quimby Act) and Measure Z as required by the Development Agreement, related to payment of an open space and public park impact fee.

5.12.4 Environmental Impacts

The following impact analysis addresses thresholds of significance for which there may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Fire Protection and Emergency Services

Impact 5.12-1: The proposed project could increase the intensity of the project site, thereby increasing the demand for fire protection facilities and personnel. [Threshold PSR-1(i)]

Impact Analysis:

Construction

Development of the proposed project would require demolition of the existing industrial building and associated parking area and construction of the proposed residential, specialty retail, creative office, and open space uses. Construction activities would be subject to compliance with applicable State and local regulations in place to reduce risk of fire, such as installation of a temporary construction fencing to restrict site access and maintenance of a clean construction site. Specifically, construction would be subject to Municipal Code Title 5, *Buildings and Structures*, and all adopted State construction codes, including the CBC and CFC (see PPP FS-2). Specifically, Municipal Code Section 7-14, *Adoption of the California Fire Code* (see PPP FS-1), includes site access requirements and fire safety precautions associated with construction activities. Project compliance with applicable State and local regulations related to fire protection would result in less than significant construction-related impacts.

Operations

Upon construction completion, the proposed project is anticipated to introduce up to 2,886 residents and 59 net employees. Therefore, project development would generate an increase in demands for fire protection and emergency medical services. As stated above, the existing industrial building on-site generated only nine calls for service in the last five years, which is well below the standard for similar industrial uses. Based on input from CMFD, an industrially zoned property similar in size to the existing building would generate approximately 14 calls for service per year while the proposed uses would generate approximately 101 calls for service per year, resulting in an increase of approximately 87 calls for service per year.

As stated, the project site is located adjacent to the I-405 Freeway and a drainage channel, which makes it challenging for CMFD to provide faster response times to the project site, even from mutual aid fire stations. The Fire Services Deployment Analysis concluded CMFD does not have the response capabilities to reach the project site or adjacent areas within a 4:00 or 8:00 minute travel time or the desirable urban best practices average response time goal of 7:30 minutes as discussed above (Citygate 2019). Further, during the project review process, it was identified that Building A with its associated parking garage design and location would not meet CMFD's fire apparatus access road or hose pull requirements due to its proximity to the I-405 Freeway. In order to meet Uniform Fire Code requirements, CMFD approved an Alternative Materials, Alternative

Design, and Methods of Construction request for the parking garage including requiring additional fire protection features in excess of Code requirements, as discussed further in Mitigation Measure PS-2.

The City's demands on CMFD's services would be offset through the collection of development impact fees established based on the Costa Mesa Fire Protection System Fee Study, the proportional increase in the City's General Fund through taxes (or other similar revenues) generated by the project, and/or as required per the Development Agreement and Municipal Code Section 13-270, *Establishment of Development Impact Fee* (PPP FS-3). The project would also be subject to SCA FIRE-7, -8, -14, -15, -17, and -25, requiring the installation of on-site fire hydrants, fire extinguishers, smoke detectors, and fire sprinkler systems in accordance with National Fire Protection Association and Uniform Fire Code requirements. SCA FIRE-16 requires installation of an automatic extinguishing system for all cooking surfaces, hoods, and ducts in residential kitchens, and SCA FIRE-9 and -10 require the project's water improvement plans be reviewed and approved by CMFD, including required fire flow and pressure. Prior to the issuance of building permits, SCA FIRE-26 requires the applicant to participate in the upgrading of fire protection facilities as requested by the City. Additionally, SCA FIRE-13 requires fire access roads to be adequately sized to provide proper fire truck access to on-site fire hydrants. Overall, the final project plans would be reviewed and approved by the CMFD, which would ensure adequate emergency access, fire hydrant availability, and compliance with all applicable State and local codes and standards.

However, as stated above, CMFD does not have response capabilities to reach the project site within a "best practices" amount of time, and the Building A and parking garage design and locations do not meet CMFD's fire apparatus access road or hose pull requirements. Therefore, impacts related to fire protection services are potentially significant.

Level of Significance Before Mitigation: Potentially Significant Impact.

Police Protection Services

Impact 5.12-2: The proposed project would not significantly increase the intensity of development at the site, thereby increasing the demand for police protection facilities and personnel. [Threshold PSR-1(ii)]

Impact Analysis:

Construction

Construction activities may create a temporary increase in demand for CMPD services to the construction site. However, project construction activities would be required to comply with Municipal Code Title 5, *Buildings and Structures*, and all adopted State construction codes (see PPP FS-2). Specifically, the CBC includes emergency site access requirements that would minimize site safety hazards and potential construction-related impacts to police services. Therefore, with compliance with these requirements, the project construction would not result in the need for additional police protection facilities, the construction of which could cause significance environmental impacts, and would not adversely impact service ratios, response times, or other CMPD performance standards. A less than significant impact would occur in this regard.

Operations

Project operation is anticipated to introduce up to 2,886 residents and 59 net employees, as well as 1,057 multi-family residential units, 25,000 square feet of creative office space, 6,000 square feet of specialty retail use, and a 1.5-acre open space area. The project would introduce new land uses to a predominately industrial area. The change in use from a less intensive to a more intensive use with more people living and working in the project area would increase calls for service, traffic and traffic-related calls, community policing, and crime prevention outreach for both residential and businesses. Additionally, it would require a shift in patrol strategies based on the need to patrol the area at a greater frequency than is currently provided, which could incrementally increase patrol response times. The City does not have an established development impact fee for new development or an adopted generation factor to determine the appropriate number of additional personnel or patrol cars based on population, response times, or other similar metrics. However, considering the City's existing per capita ratio of 1.17 officers per 1,000 residents, the project's contribution of 2,886 additional residents to the City's population would reduce the service ratio below existing levels. Based on the change in the character of the area and the resulting demand for additional police patrols, the CMPD has determined a minimum of three sworn police personnel and associated police vehicles would be necessary in order to offset the incremental increase in service demands resulting from the project. The project would not result in the need for a new police station or expansion to existing stations or any other similar physical improvement.

The City's demands on CMPD services are addressed through the City's General Fund, whose revenues are collected from property, sales, and utilities taxes. Further, although the City does not have a development impact fee for Police services, the City is currently undergoing a Citywide Development Impact Fee Study, which may establish such a fee. Further, the project would be required to provide additional funding consistent with the terms of the Development Agreement. Thus, the collection of development impact fees established through the Citywide Fee Study and Municipal Code Section 13-270, *Establishment of Development Impact Fee*, the proportional increase in the City's General Fund through taxes (or other similar revenues) generated by the project, and/or payment of funds as required per the Development Agreement would ensure the applicant provides adequate funds to address its fair share demand for CMPD services. Additionally, new staffing and equipment would not result in substantial adverse physical impacts or require the need for new or physically altered CMPD facilities, the construction of which could cause significant environmental impacts.

Further, implementation of the proposed project would include installation of security features and natural surveillance (i.e., providing observable spaces in the community). Project lighting would illuminate pathways, stairways, entrances and exits to the project site, parking areas, mail box areas, children's play areas, recreation areas, pools, dumpster areas and other locations as required by the City and CMPD. Specific lighting design standards and "Crime Prevention Through Environmental Design" techniques are also proposed in the Specific Plan. For the proposed residential buildings, project landscaping and site lighting would be designed to avoid creating blind spots or hiding places; paving treatments would be installed to guide visitors to desired entrances and pedestrian pathways; pedestrian walkways would be unobstructed from outdoor furniture, ground-level lighting, and landscaping; and the multi-family buildings would be positioned around large courtyards that encourage public views. For the commercial areas, each tenant space would be fully illuminated at night and have rear public access and windows; shrubbery height would be maintained at three feet; private recreation areas would be visible from residential units; and parking areas and pedestrian walkways would be illuminated

adequately during nighttime hours. For the creative office building, windows and exterior doors would be visible from neighboring buildings and areas; public entrances would be clearly defined with architectural elements, lighting, landscaping, paving, or signage; and effective lighting would be utilized at all exterior doors, common areas, and hallways. For parking garages, stretched cable railings would be utilized (rather than opaque barrier walls) to maximize interior visibility; all parking areas and driving lanes would be fully illuminated and under surveillance of security cameras; stairwells would be visible with no solid walls; emergency telephones would be provided on all parking garage levels; and elevators would be installed close to main entrances. For the open space, all benches would have seat dividers; all trash receptables would be durable and vandal-resistant; open space rules would be posted at the entry to the open space; and the bicycle and pedestrian trail would be positioned along Sunflower Avenue to make users more observable by others.

Additionally, on-site security would be provided (SCA PD-58). Cameras are proposed to be installed in all common areas and hallways. Cameras would be monitored 24 hours per day, seven days a week, at a centralized location by the applicant's property management team. Further, in the afternoon and through the night, a third-party courtesy patrol would patrol and walk the property.

Overall, development of the proposed project would result in an incremental increase in demands on CMPD services but would not adversely impact CMPD's ability to maintain its current response times and police staffing levels. As stated above, the CMPD is a full-service police agency providing a wide range of crime suppression, education, and prevention services to the community. CMPD would continue to add staff and equipment on an as-needed basis to accommodate the incrementally increasing demands from future development, including the proposed project. Thus, impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

School Services

Impact 5.12-3: The proposed project would introduce new students into the NMUSD service area, but would not adversely impact school enrollment capacities. [Threshold PSR-1(iii)]

Impact Analysis:

Construction

The project does not propose the construction of any new or physically altered school facilities. Additionally, the project is not located near any existing schools such that its construction would disrupt school services. Due to its temporary nature, project construction activities would not generate additional students, and no impacts to school services would occur.

Operations

As shown in Table 5.12-2, *Project-Generated Students*, the proposed project is estimated to generate approximately 85 students, consisting of 54 elementary school (grades K-6) students, ten middle school (grades 7-8) students, and 21 high school (grades 9-12) students.

Table 5.12-2 Project-Generated Students

School Level (Grades)	Student Generation Rate Per Unit	Project Buildout	Students Generated
Elementary (K-6)	0.051	1,057 dwelling units	54
Middle (7-8)	0.009		10
High (9-12)	0.020		21
Total	**0.080**		**85**

Source: Ramirez 2019.
Note: Projections rounded to the nearest whole number.

The residual capacities at the three schools serving the project site include 146 seats at California Elementary School, 751 seats at TeWinkle Middle School, and 703 seats at Estancia High School. Therefore, there is adequate existing capacity at the three NMUSD schools serving the project site to accommodate future students associated with the proposed project.

Additionally, pursuant to SB 50, the project applicant is required to pay developer fees per square foot for residential and commercial construction to offset development impacts on NMUSD's facilities and resources (see PPP SS-1). As the project would be required to pay these developer fees, which are deemed to be full mitigation, and existing school capacities would accommodate future students generated by the project, impacts to school services would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Library Services

Impact 5.12-4: Project development would not significantly increase residents in the OCPL service area, thus increasing demands for library facilities and services. [Threshold PSR-1(iv)]

Impact Analysis:

Construction

The project does not propose the construction of any new or physically altered library facilities. Due to its temporary nature, project construction activities would not generate an increase in the City's population, and no impacts in this regard would occur.

Operations

Project operations are anticipated to introduce up to 2,886 people to the City, thereby increasing demands for OCPL facilities and resources. Based on OCPL's service standards of 0.2 square feet of library space per capita, 1.3 volumes of library collections per capita, and 4.5 items in circulation per capita, the project would require approximately 578 square feet of library space, 3,752 collection volumes, and 12,987 items. Funding for OCPL services is provided through County property taxes dedicated to the library. These funds would be used to upgrade and expand existing facilities, as needed. Project impacts are anticipated to be adequately funded by an increase in tax revenue, over an extended period of time, relative to the increase in development intensity. Additionally, the Donald Dungan Library and Mesa Verde Library in Costa Mesa would have access to a

circulation of more than two million volumes at all branch libraries of the OCPL system, including those in surrounding communities. As such, library services would not have significant and adverse impacts.

Level of Significance Before Mitigation: Less Than Significant Impact.

Park Facilities and Recreation Services

Impact 5.12-5: Project development would introduce additional residents in the City, but would not substantially increase demands for park facilities and recreation services. [Thresholds PSR-1(v), PSR-2, and PSR-3]

Impact Analysis:

The proposed project would provide a variety of residential recreational amenities on-site, including a fitness center and wellness room; a club house/community room with a bowling alley, high-tech gaming center, kitchen/dining facilities, and resort-style saltwater swimming pools (one Junior Olympic-size) with spas and cabana areas. The project would also include multiple courtyards and rooftop amenity terraces, community/art exhibit spaces, and solar panels on south-facing roofs. Notwithstanding, at project buildout, the project would introduce up to 2,886 residents in the City (based on an average household size of 2.73), thereby increasing demands for recreational facilities provided by the City's Parks and Community Services Department. As stated above, the City has a parkland standard of 4.26 acres of parkland per 1,000 residents. As such, the project would be required to provide 12.29 acres of parkland.

Future residents associated with the project could accelerate the normal wear and tear on existing nearby park facilities, including Moon Park, Suburbia Park, and Smallwood Park. However, the project site is within proximity to two regional parks within the City: the 210-acre Fairview Park and 180-acre Talbert Regional Park owned and maintained by OC Parks. Additionally, the project includes the development of a 1.5-acre open space area that would serve the residents and visitors in the project area. The open space would include seating and resting areas in addition to creative landscaping/art pieces and shade structures. The area would be privately maintained but available to the general public through the dedication of a public access easement. The open space would also be accessible to pedestrians from the nearby employment centers, such as SOCO and The OC Mix, and by bicyclists via a connection to the Santa Ana River Trail to the west. A 1,500-square foot community room would be integrated in Building B (to the east of the open space) and would be available for public and private events. Further, an active transportation hub is proposed adjacent to the proposed open space and Santa Ana River and could include bicycle lockers, bicycle storage, bicycle repair facilities, and space for community-wide bicycle-share programs and events.

Furthermore, the project proposes major multimodal improvements to Sunflower Avenue to enhance the pedestrian and bicyclist experience and to connect to the regional Santa Ana River Trail system. Sunflower Avenue improvements include separated bicycle lanes on both sides of the street, parallel parking on the south side of Sunflower Avenue (further separating the proposed bicycle lane from vehicular traffic), additional landscaping along the project frontage, and striped bicycle crossings. Trail connection improvements, including trail resurfacing and landscaping, are also proposed along the southwest portion of the site westward towards the Santa Ana River Trail. The proposed recreational improvements are analyzed throughout Chapter 5.0,

Environmental Analysis. The development of the open space and recreational amenities in the project area would not result in significant impacts to the environment.

The project is also required to comply with the Quimby Act and Measure Z, which require dedication of parkland and/or payment of in-lieu fees and payment of impact fees related to open space (see PPP PS-1). Therefore, the project applicant would be required to dedicate land and/or pay in-lieu fees under the terms and conditions of the Development Agreement. Compliance with these regulatory requirements, along with the development of the proposed recreational amenities, would ensure project impacts to park and recreational services are less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.12.5 Cumulative Impacts

Fire Protection and Emergency Services

Impact 5.12-6: The project, combined with other related projects, could increase demand for CMFD services that could cause significant environmental impacts. [Threshold PSR-1(i)]

Impact Analysis:

For purposes of fire protection services analysis, cumulative impacts are considered for projects which would also contract with CMFD (i.e., related projects within the City). However, cumulative development would also be subject to payment of development impact fees to offset their respective increases in demand for fire and emergency services. Related projects would also be required to comply with applicable State and local regulations intended to reduce risk of fire and impacts on fire protection services. Cumulative projects would be evaluated on a case-by-case basis at the project-level, as they are implemented, for their potential to impact CMFD's services.

As discussed, project implementation would introduce additional residential, specialty retail, and creative office uses, which would increase demands for CMFD fire protection and emergency services. The project would be required to pay development impact fees collected in accordance with Municipal Code Section 13-270, *Establishment of Development Impact Fee* or as required per the Development Agreement (see PPP FS-3). In addition, the project would be subject to conformance with PPP FS-1 and -2, SCA FIRE-7 through -10, -13, through -17, -25, and -26, which reduce risk of fire.

However, as stated above, CMFD does not have response capabilities to reach the project site within a "best practices" amount of time, and the Building A and parking garage design and locations do not meet CMFD's fire apparatus access road or hose pull requirements. Therefore, the project's cumulative impacts to fire protection services would be potentially significant.

Level of Significance Before Mitigation: Potentially Significant Impact.

Police Protection Services

Impact 5.12-7: The project, combined with other cumulative projects, would not substantially increase demand for CMPD services that could cause significant environmental impacts. [Threshold PSR-1(ii)]

Impact Analysis:

For purposes of police protection services analysis, cumulative impacts are considered for projects which would also receive CMPD services (i.e., future development within Costa Mesa). Cumulative development would also contribute to the City's General Fund through collection of property, sales, and utilities taxes. Future cumulative projects would be reviewed by the CMPD prior to development permit approval to ensure adequate security measures are provided for each site-specific development. Overall, cumulative development would be evaluated on a case-by case basis at the project level, as they are implemented, for their potential to impact CMPD services.

Project implementation would introduce residential, specialty retail, creative office, and open space uses, which would increase demands for CMPD services. However, the project's impact to police protection services would be reduced through implementation of the Development Agreement, which includes payment to provide three sworn police personnel and associated vehicles, as well as collection of property, sales and utilities taxes that contribute to the City's General Fund. Additionally, the project would implement several crime prevention and security design features, per the Specific Plan. As the project would result in less than significant impacts regarding police protection services, the project's cumulative impacts would not be cumulatively considerable. A less than significant impact would occur in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

School Services

Impact 5.12-8: Development of the proposed project, in combination with related projects, would not adversely impact NMUSD's facilities and resources. [Threshold PSR-1(iii)]

Impact Analysis:

For purposes of school services analysis, cumulative impacts are considered for projects also within the NMUSD school boundary (i.e., projects within Costa Mesa and Newport Beach). Cumulative projects would also be subject to SB 50 development impact fees, where are deemed to be full mitigation.

Project implementation would introduce additional residential development, which would increase demands for NMUSD school services. However, project implementation would be subject to SB 50, which allows school districts to collect impact fees from developers of new commercial and residential building space. Per PPP SS-1, the project would be required to pay these development impact fees, which are deemed to be full mitigation. Additionally, the NMUSD schools that would serve the project site have adequate capacity to accommodate future students associated with the project. As the project would result in less than significant impacts regarding

school services, the project's cumulative impacts would not be cumulatively considerable. A less than significant impact would occur in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Library Services

Impact 5.12-9: The project, combined with other cumulative projects, would not substantially increase demands for OCPL services that could cause significant environmental impacts. [Threshold PSR-1(iv)]

Impact Analysis:

For purposes of library service analysis, cumulative impacts are considered for projects which would also be within the OCPL service area (i.e., future development within the County). Cumulative projects would proportionally fund the County's funds from property taxes, a portion of which would be dedicated to OCPL services. Cumulative development would be evaluated on a case-by case basis at the project level, as they are implemented, for their potential to impact OCPL services.

Project implementation would introduce residents into OCPL's service area and increase demands for library services. However, the project would contribute towards County property taxes that fund OCPL services throughout the County. These funds would be utilized to upgrade and expand existing and/or planned library facilities and resources, as needed. As the project would result in less than significant impacts in regard to library services, the project's cumulative impacts would not be cumulatively considerable and would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Park Facilities and Recreation Services

Impact 5.12-10: The project, combined with other cumulative projects, would not substantially increase demands for parks and recreational facilities that could cause significant environmental impacts. [Thresholds PSR-1(v), PSR-2, and PSR-3]

Impact Analysis:

For purposes of parkland and recreational facilities analysis, cumulative impacts are considered for projects which would also result in increased demands on City parks and recreational facilities (i.e., future residential development within Costa Mesa). Cumulative development would also be subject to conformance with PPP PS-1 and dedication of parkland and/or payment of in-lieu fees. Cumulative development would be evaluated on a case-by case basis at the project level, as they are implemented, for their potential to impact City-owned parks and recreational facilities.

Project implementation would introduce residents in the City that could increase demands for City parks and recreational facilities. However, the project's impact to existing parks and recreational services would be reduced

to less than significant levels following conformance with PPP PS-1. Specifically, the project would be required to pay in-lieu fees or other impact fees as required per the Development Agreement to offset the project's anticipated parkland demands. The project also proposes a 1.5-acre open space area, pedestrian and bicyclist improvements along Sunflower Avenue, improved trail connections to the Santa Ana River Trail, and residential recreational amenities. As the project would result in less than significant impacts regarding park and recreation services, the project's cumulative impacts would not be cumulatively considerable, and impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.12.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be **less than significant**: Impacts 5.12-2, 5.12-3, 5.12-4, 5.12-5, 5.12-7, 5.12-8, 5.12-9, and 5.12-10.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.12-1:** The proposed project could increase the intensity of the project site, thereby increasing the demand for fire protection facilities and personnel.
- **Impact 5.12-6:** The project, combined with other related projects, could increase demand for CMFD services that could cause significant environmental impacts.

5.12.7 Mitigation Measures

Impact 5.12-1

PS-1 Prior to issuance of the first occupancy permit, the applicant shall provide written documentation to the City of Costa Mesa Development Services Department that the existing traffic signals along the response corridors from Costa Mesa Fire & Rescue Department (CMFD) Stations 1, 2, 4, 5, and 6 to the project site have been retrofitted with Emergency Vehicle Preemption (EVP) as required by CMFD.

PS-2 In addition to compliance with standard fire protection requirements of the California Fire Code and referenced standards as adopted by the Costa Mesa Fire & Rescue Department (CMFD), the project shall provide the following three fire protection features in excess of minimum code requirements to ensure the proposed Building A and associated parking garage design meet CMFD's fire apparatus access road and hose pull requirements:

- Wet standpipes with one, 2.5-inch connection shall be provided at, or near, the end of each of the 300-foot hose pull reaches;
- An increase fire sprinkler density of 0.20 gallons per minute (GPM)/1500 without any corresponding reduction in design area due to the use of quick response sprinkler heads shall be included in the sprinkler system design; and

- A two-hour firefighter tunnel shall be provided to reduce the project's deficient hose pull.

All other apparatus access roads, buildings, and structures on-site shall comply with the fire protection requirements of the California Fire Code and referenced standards as adopted by the CMFD.

Impact 5.12-6

Refer to Mitigation Measures PS-1 and PS-2.

5.12.8 Level of Significance after Mitigation

Impact 5.12-1

As stated, the project site is located adjacent to the I-405 Freeway and a drainage channel, which makes it challenging for CMFD to provide faster response times to the project site, even from mutual aid fire stations. The Fire Services Deployment Analysis concluded that CMFD does not have the response capabilities to reach the project site or adjacent areas within a 4:00 or 8:00 minute travel time or the desirable urban best practices average response time goal of 7:30 minutes as discussed above. It is also acknowledged that the proposed project is estimated to incrementally increase calls for service at the site from 14 to 101 and contributes traffic incrementally to the surrounding street system. As such, in consultation with CMFD, the project is required to retrofit existing traffic signals along the response corridors from CMFD Stations 1, 2, 4, 5, and 6 to include Emergency Vehicle Preemption (EVP) as required by CMFD per Mitigation Measure PS-1. CMFD states that implementation of Mitigation Measure PS-1 is acceptable mitigation to incrementally improve response capabilities to the site.

Further, in addition to compliance with standard fire protection requirements of the California Fire Code and referenced standards as adopted by the CMFD, the project is required to provide the following three fire protection features in excess of minimum code requirements to ensure Building A and the associated parking garage design meet CMFD's fire apparatus access road and hose pull requirements (Mitigation Measure PS-2):

- Wet standpipes with one, 2.5-inch connection are required at, or near, the end of each of the 300-foot hose pull reaches;
- An increase fire sprinkler density of 0.20 gallons per minute (GPM)/1500 without any corresponding reduction in design area due to the use of quick response sprinkler heads is required in the sprinkler system design; and
- A two-hour firefighter tunnel is required to reduce the deficient hose pull.

All other apparatus access roads, buildings, and structures on-site are required to comply with the fire protection requirements of the California Fire Code and referenced standards as adopted by the CMFD.

CMFD also indicated that, although there are no current plans to increase the number of personnel service in the project area, additional staffing, apparatus, and facilities need to be considered. CMFD is currently conducting a comprehensive Citywide Standards of Coverage Assessment and deployment analysis that is

independent of the proposed project. The City is also concurrently conducting a Development Impact Fee Study to account for similar changes of use that result in net increases to call volumes. In the meantime, to mitigate the impacts of the project-generated increase in anticipated calls for service, CMFD has accepted PPP FS-3, which requires the negotiation of fees through the Development Agreement with an understanding that the developer will be required to pay its pro-rata share of additional staffing, apparatus, and facilities. As stated above, the project would be required to pay development impact fees established based on the Citywide Standards of Coverage Assessment and the Development Impact Fee Study and as required in the Development Agreement in accordance with PPP FS-3 and Municipal Code Section 13-270, *Establishment of Development Impact Fee*. The revenues raised by the development impact fee, the Development Agreement, and the proportionate revenues generated through the project's ongoing payment of taxes (and other similar project-related revenues) would fund fire protection staffing, facilities, and equipment and would offset the project's incremental impacts to fire services.

Therefore, with implementation of Mitigation Measures PS-1 and PS-2 and all relevant SCAs and PPPs, impacts related to fire protection services would be less than significant.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.12-6

Refer to the discussion above. The project's impacts would be offset by implementation of Mitigation Measures PS-1 and PS-2, which require retrofitting existing traffic signals along the response corridors from CMFD Stations 1, 2, 4, 5, and 6 to the project site with EVP and implementing fire protection features in excess of minimum California Fire Code and CMFD requirements for proposed Building A and its associated parking garage. Further, development impact fees collected in accordance with Municipal Code Section 13-270, *Establishment of Development Impact Fee*, funds as required per the Development Agreement (PPP FS-3), and the proportionate revenues generated through the project's ongoing payment of taxes (and other similar project-related revenues) would offset the project's demands on CMFD services. In addition, the project would be subject to conformance with PPP FS-1 and -2, SCA FIRE-7 through -10, -13, through -17, -25, and -26, which reduce risk of fire. As the project would result in less than significant impacts regarding fire facilities with implementation of Mitigation Measures PS-1 and PS-2 and all applicable PPPs and SCAs, the project's cumulative impacts to fire protection services would not be cumulatively considerable. Impacts in this regard are less than significant.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Chapter 5.13 Transportation

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5.13 TRANSPORTATION

This section of the Draft EIR evaluates the potential for the project to impact transportation infrastructure on-site and in the project area. The analysis in this section is based in part on the *Traffic Impact Analysis: One Metro West, City of Costa Mesa Orange County, California* (TIA), LSA, January 2020. A complete copy of this study is provided in this Draft EIR (Volume II, Appendix M, *Traffic Impact Analysis*).

5.13.1 Environmental Setting

5.13.1.1 REGULATORY BACKGROUND

State

Sustainable Communities and Climate Protection Act

The Sustainable Communities and Climate Protection Act (Senate Bill [SB] 375) was signed into law on September 30, 2008. SB 375 provides incentives for cities and developers to bring housing and jobs closer together and to improve public transit. The goal behind SB 375 is to reduce automobile commuting trips and length of automobile trips, thus helping to meet the Statewide targets for reducing greenhouse gas (GHG) emissions set by the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). SB 375 requires each metropolitan planning organization to add a broader vision for growth, called a "sustainable communities strategy" (SCS), to its transportation plan. The SCS must lay out a plan to meet the region's transportation, housing, economic, and environmental needs in a way that enables the area to lower greenhouse gas emissions. The SCS should integrate transportation, land use, and housing policies to plan for achievement of the regional emissions target.

Senate Bill 743

On September 27, 2013, SB 743 was signed into law. The legislature found that with the adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the State had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) and thereby contribute to the reduction of greenhouse gas emissions, as required by AB 32.

SB 743 started a process that changes how transportation impacts are analyzed under CEQA. These changes include the elimination of automobile delay, level of service (LOS), and similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts under CEQA. As part of the new CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." The Governor's Office of Planning and Research (OPR) developed alternative metrics and thresholds based on VMT. The guidelines were certified by the Secretary of the Natural Resources Agency in December 2018 to specify that automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, is not considered a significant impact on the environment. Agencies have until July 1, 2020 to adopt new VMT-based criteria for evaluating

traffic impacts.[1] OPR also published a Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) in December 2018 to provide technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures (OPR 2018).

California Department of Transportation

Intersections associated with freeway on-ramps and off-ramps fall under the California Department of Transportation's (Caltrans) jurisdiction. Caltrans is the primary State agency responsible for transportation issues. Caltrans approves the planning, design, and construction of improvements for all State-controlled facilities, including the San Diego Freeway (I-405 Freeway). Caltrans has established standards for roadway traffic flow and developed procedures to determine if State-controlled facilities require improvements. Caltrans utilizes the Highway Capacity Manual 6th Edition (HCM) methodology to evaluate intersections within its jurisdiction. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore, a greater delay. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable, which can reduce users' delay tolerance.

Regional

Southern California Association of Governments

The Southern California Association of Governments' (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) provides a regional transportation plan for six counties in Southern California: Orange, San Bernardino, Riverside, Los Angeles, Ventura, and Imperial. The primary goal of the regional transportation plan is to increase mobility for the region. With recent legislation, this plan also encompasses sustainability as a key principle in future development. Current and recent transportation plan goals generally focus on balanced transportation and land use planning that:

- Maximize mobility and accessibility for all people and goods in the region.
- Ensure travel safety and reliability for all people and goods in the region.
- Preserve and ensure a sustainable regional transportation system.
- Maximize the productivity of our transportation system.
- Protect the environment and health of residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).
- Encourage land use and growth patterns that facilitate transit and active transportation.

Orange County Transportation Authority Congestion Management Plan

The Orange County Transportation Authority (OCTA) is the subregional planning agency for Orange County. In June 1990, the Proposition 111 gas tax increase required California's urbanized areas (areas with populations of 50,000 or more) to adopt a Congestion Management Program (CMP). The CMP is intended to link

[1] The analysis included in this section evaluates the traffic impacts of the proposed project based on LOS. Although the City has yet to adopt specific VMT criteria, VMT considerations are made as well..

transportation, land use, and air quality decisions and to address the impact of local growth on the regional transportation system. Compliance with CMP requirements ensures a city's eligibility to compete for State gas tax funds for local transportation projects. The Orange County CMP was established in 1991, and the most recent CMP was adopted in 2017. An updated CMP was considered by the OCTA Board of Directors on November 25, 2019 and is currently being considered by SCAG for a finding of regional consistency (OCTA 2019a).

Local

General Plan

The Growth Management Element and Circulation Element of the General Plan includes goals, objectives, recommendations, and policies related to circulation and mobility. Most notably, Policy C-2.8 of the Circulation Element establishes Level of Service (LOS) "D" as the threshold for meeting the City's significance criteria. Other relevant goals, policies, and objectives referenced in this analysis are identified below.

- **Goal C-1:** Implement "Complete Streets" Policies on Roadways in Costa Mesa. Plan, develop, and implement a comprehensive transportation system that serves all users and modes of travel.
  - **Objective C-1A:** Create a transportation network that meets the mobility needs of all Costa Mesa residents, businesses, and visitors.
    - **Policy C-1.5:** Implement road diets on street segments with excess capacity to enhance bicycle and pedestrian facilities.
- **Goal C-3:** Enhance Regional Mobility and Coordination. Encourage development of a regional transportation network that addresses regional mobility needs for all modes of travel.
  - **Objective C-3A:** Promote development of transportation projects along regional corridors.
    - **Policy C-3.1:** Maintain compliance with Orange County Congestion Management Plan (CMP) requirements, including consistency with CMP level of service standards, adoption of a seven-year capital improvement program, analysis of impacts of land use decisions on the CMP highway system, and adoption and implementation of deficiency plans when intersections do not meet adopted performance standards.
    - **Policy C-3.3:** Support the goals and objectives of the SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), including expansion of transportation system choices, improvement of transportation system performance, and sustainability of transportation infrastructure.
  - **Objective C-3B:** Coordinate and partner with local and regional agencies to promote projects and polices that improve regional mobility.

- **Policy C-3.8:** Coordinate with adjacent jurisdictions to maintain or improve mobility within the City to achieve a standard Level of Service no worse than "D" at all intersections under State or joint control. Intersection Level of Service analyses for General Plan conditions for locations under State or joint control will be updated periodically and presented to the City Council.

- **Goal C-5:** Ensure coordination between the Land Use and Circulation Systems. Facilitate close coordination between development of land use and circulation system.

  - **Objective C-5A:** Coordinate land use policies and development activities that support a sustainable transportation system.

    - **Policy C-5.2:** Require that large developments and redevelopments provide short-term and long-term vehicular traffic impact studies.

    - **Policy C-5.3:** Encourage permitted General Plan land uses which generate high traffic volumes to be located near major transit and transportation corridors to minimize vehicle use, congestion, and delay.

    - **Policy C-5.5:** Promote development of mixed-use projects to reduce number of vehicle trips.

    - **Policy C-5.6**: Coordinate the design and improvement of pedestrian and bicycle ways in major residential, shopping and employment centers, parks, schools, other public facilities, public transportation facilities, and bicycle networks with adjacent cities.

    - **Policy C-5.9:** Require that circulation necessary to provide or attain the minimum traffic level of service standard at an intersection to which a development project contributes measurable traffic be completed within three years of issuance of the first building permit for such development project, unless additional right-of-way or coordination with other government agencies is required to complete the improvement. Improvements may be required sooner if, because of extraordinary traffic generation characteristics of the project or extraordinary impacts to the surrounding circulation system, such improvements are necessary to prevent significant adverse impacts.

  - **Objective C-5B:** Establish strategies and processes that allow large developments to analyze and mitigate traffic impacts and infrastructure needs.

    - **Policy C-5.13:** Require that new development projects improve access to and accommodations for multimodal transportation.

    - **Policy C-5.15:** Consider the needs of the transportation and infrastructure system early for large developments and coordinate with developers to design projects that minimize traffic impacts and infrastructure demands, and implement complete streets wherever feasible. Alternatively, address transportation and infrastructure system impacts through the implementation of development agreements.

- **Goal C-7**: Promote a Friendly Active Transportation System in Costa Mesa. Create a bicycle and pedestrian friendly environment throughout Costa Mesa for all types of users and all trip purposes in accordance with the five "Es:" Education, Encouragement, Enforcement, Engineering, and Evaluation.
  - **Objective C-7A**: Expand, enhance, and protect the existing bicycle and pedestrian network to provide a comprehensive, system of Class I, Class II, Class III, and Class IV facilities to increase connectivity between homes, jobs, schools transit, and recreational resources in Costa Mesa.
    - **Recommendation C-7.1**: Develop an extensive bicycle and pedestrian backbone network through the use of standard and appropriate innovative treatments.
    - **Recommendation C-7.4**: Where feasible, Class I shared-use paths should be a priority for future developments.
    - **Recommendation C-7.10**: Support bicycle improvement projects that close gaps in the regional bicycle network either by implementing specific projects recommended in the Plan or through other treatments.
    - **Recommendation C-7.11**: Encourage bicycle projects that connect local facilities and neighborhoods to major bicycle corridors.
  - **Objective C-7B**: Provide end-of-trip facilities that support the bicycle network.
    - **Recommendation C-7.22**: Pursue public-private partnerships to furnish local businesses with secure bike parking and other related amenities.
    - **Recommendation C-7.26**: Prioritize the installation of bicycle-scale and/or pedestrian-scale lighting.
  - **Objective C-9B**: Integrate bicycle and pedestrian facility improvements during planning, design and implementation of transportation projects.
    - **Recommendation C-9.3:** Require new developments provide adequate bicycle parking and pedestrian access.
    - **Recommendation C-9.5**: Encourage the integration of compatible land uses and housing into major development projects to reduce vehicle use.
    - **Recommendation C-9.14**: Detours through or around construction zones should be designed for safety and convenience, and with adequate signage for cyclists and pedestrians.

Existing Roadway Network

Existing Study Area Regional/Local Roadways

Regional access to the project site is provided by the I-405 Freeway, State Route 73 (SR-73; San Joaquin Hills Transportation Corridor), and State Route 55 (SR-55; Costa Mesa Freeway). Harbor Boulevard and Sunflower Avenue are the major roadways that provide local access to the site; Hyland Avenue and Cadillac Avenue extend perpendicularly from Sunflower Avenue to the east and west, respectively. The following is a brief description of the roadway network in the project site area:

- **Harbor Boulevard:** Harbor Boulevard is a north-south oriented, six-to-eight-lane divided roadway. The General Plan Circulation Element designates Harbor Boulevard as a Major Arterial. The speed limit is 40 miles per hour (mph). Curbside parking is not permitted on either side of the street.
- **Sunflower Avenue:** Sunflower Avenue is an east-west oriented, four-lane divided roadway that provides direct access to the project from the north. It is designated as a Primary Arterial between Hyland Avenue and Bear Street, and as a Major Arterial east of Bear Street by the General Plan Circulation Element. In the vicinity of the project, Sunflower Avenue terminates at the south end of Cadillac Avenue. The speed limit within the study area varies between 40 and 45 mph. Curbside parking is not permitted on either side of the street.
- **Hyland Avenue:** Hyland Avenue is a north-south oriented, four-lane undivided roadway and is designated as a Primary Arterial by the General Plan Circulation Element. The speed limit is 40 mph. Curbside parking is not permitted on either side of the street.
- **Cadillac Avenue**: Cadillac Avenue is a north-south oriented, two-lane undivided roadway. Cadillac Avenue is not classified in the General Plan Circulation Element. There is no posted speed limit on Cadillac Avenue. Curbside parking is not permitted on either side of the street.
- **Euclid Street:** Euclid Street is a divided north-south six-lane roadway within the City of Fountain Valley. It is designated as an Augmented Primary Arterial north of Newhope Street and as a Primary Arterial south of Newhope Street in the City of Fountain Valley's General Plan. South of the I-405 Freeway, Euclid Street continues as Ellis Avenue. The speed limit along Euclid Street is 45 mph. Curbside parking is not permitted on either side of the street.
- **Newhope Street:** Newhope Street is a north-south oriented, four-lane divided roadway located within the City of Fountain Valley. South of Euclid Street, Newhope Street terminates at the I-405 Freeway as northbound ramps. It is designated as a Secondary Arterial in the City of Fountain Valley's General Plan. The speed limit along Newhope Street is 40 mph. Curbside parking is not permitted on either side of the street.
- **Talbert Avenue/W. MacArthur Boulevard**: Talbert Avenue is an east-west oriented, six-lane divided roadway within the City of Fountain Valley and City of Costa Mesa. Talbert Avenue continues as West MacArthur Boulevard (west of Harbor Boulevard) within the City of Santa Ana. It is designated as a Primary Arterial west of Euclid Street and as an Augmented Primary Arterial east of Euclid Street by the City of Fountain Valley General Plan. In the City of Costa Mesa, Talbert Avenue is designated as a Primary Arterial between the western City limit and Hyland Avenue, and as a Major Arterial between Hyland Avenue and the eastern City limit per the General Plan. MacArthur Boulevard is designated as a Major Arterial

within the City of Santa Ana General Plan Circulation Element. The speed limit within the study area varies between 40 and 45 mph. Curbside parking is not permitted on either side of the street.

- **South Coast Drive:** South Coast Drive is an east-west oriented, four-lane divided roadway within the City of Costa Mesa. It is designated as a Primary Arterial in the City's Circulation Element. The speed limit is 45 mph. Curbside parking is not permitted on either side of the street.
- **Susan Street:** Susan Street a north-south oriented, four-lane divided roadway between Sunflower Avenue and I-405 Freeway and a two-lane roadway north of Sunflower Avenue within the City of Costa Mesa. Though it is not classified in the General Plan Circulation Element, it functions as an arterial south of Sunflower Avenue and as a collector north of Sunflower Avenue. The speed limit is 35 mph. Curbside parking is not permitted on either side of the street.
- **Fairview Road:** Fairview Road is a north-south oriented, six-lane divided roadway. The General Plan Circulation Element classifies it as a Major Arterial. The speed limit is 45 mph. Curbside parking is not permitted on either side of the street.

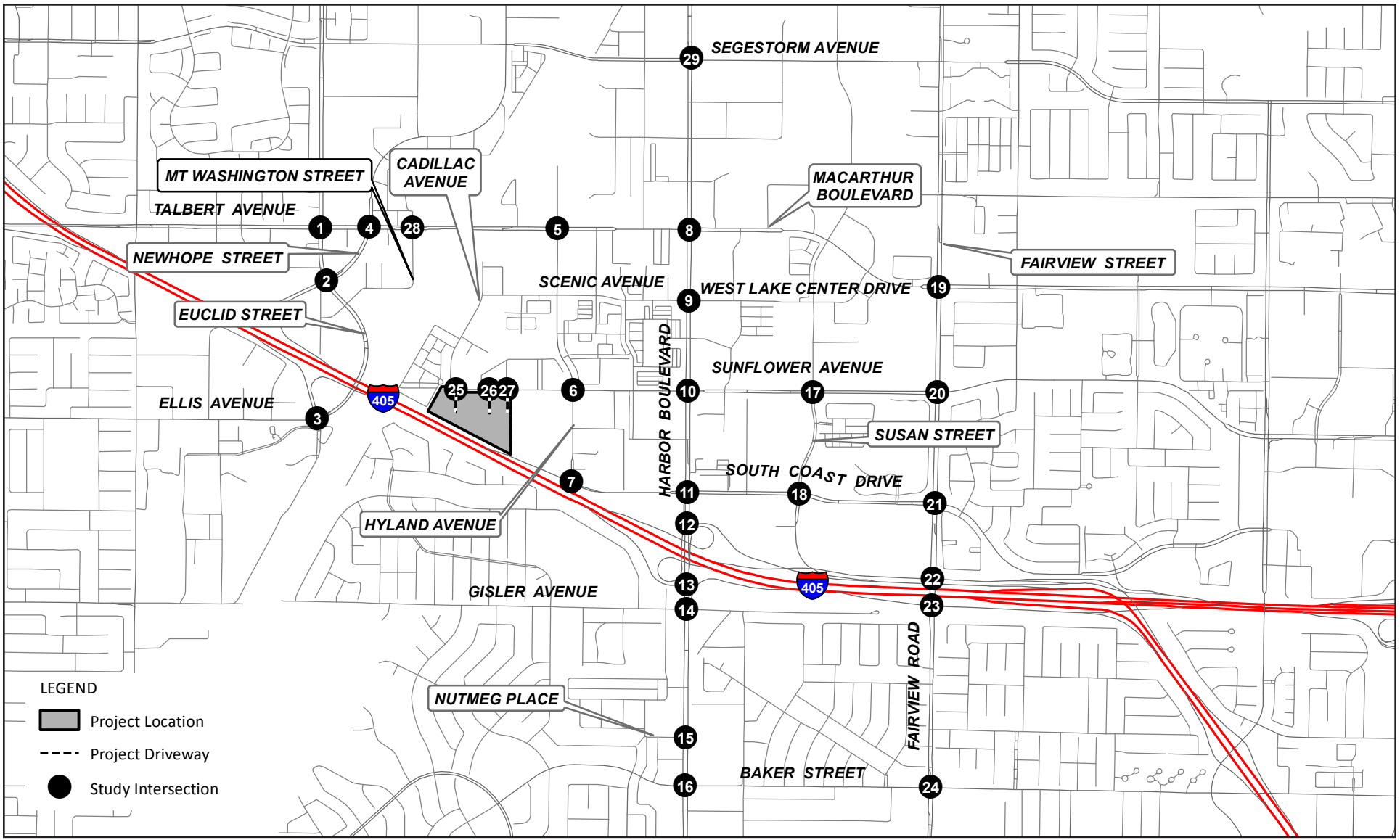
Additionally, the intersection of the I-405 Freeway Southbound Ramps/Ellis Avenue-Euclid Street is currently being improved as part of the I-405 Freeway Improvement Project by adding a new eastbound slip-on ramp from Ellis Avenue to the southbound I-405 Freeway, thereby eliminating the dual left-turn lanes from eastbound Ellis Avenue to the existing I-405 Freeway southbound on ramp. This improvement would be completed prior to the proposed project's opening year. Therefore, these improvements have been considered as the intersection configuration under future short-term cumulative (2027) and General Plan buildout (2040) conditions.

Study Area Intersections

The study area for the project was identified per the City's Transit Impact Analysis guidelines, based on those intersections where the project would add 50 or more trips. In addition, based on agency consultation, the TIA also includes study intersections in neighboring cities of Fountain Valley and Santa Ana. As a result, the study area consists of the following 29 intersections within the jurisdictions of Costa Mesa, Fountain Valley, Santa Ana, and Caltrans; refer to Figure 5.13-1, *Study Area Intersections*:

1. Euclid Street/Talbert Avenue (Fountain Valley);
2. Euclid Street/I-405 Freeway Northbound Ramps-Newhope Street (Caltrans);
3. I-405 Freeway Southbound Ramps-Orange County Sanitation District (OCSD) Driveway/Ellis Avenue-Euclid Street (Caltrans);
4. Newhope Street/Talbert Avenue (Fountain Valley);
5. Orange County Transportation Authority (OCTA) Bus Base-Hyland Avenue/MacArthur Boulevard (Costa Mesa/Santa Ana);
6. Hyland Avenue/Sunflower Avenue (Costa Mesa);
7. Hyland Avenue/I-405 Freeway Northbound Ramps-South Coast Drive (Caltrans);
8. Harbor Boulevard/MacArthur Boulevard (Costa Mesa/Santa Ana);
9. Harbor Boulevard/Scenic Avenue-West Lake Center Drive (Costa Mesa/Santa Ana);
10. Harbor Boulevard/Sunflower Avenue (Costa Mesa/Santa Ana);
11. Harbor Boulevard/South Coast Drive (Costa Mesa);

12. Harbor Boulevard/I-405 Freeway Northbound Off-Ramp-I-405 Freeway Southbound On-Ramp (Caltrans);
13. Harbor Boulevard/I-405 Freeway Southbound Off-Ramp-I-405 Freeway Northbound On-Ramp (Caltrans);
14. Harbor Boulevard/Gisler Avenue (Costa Mesa);
15. Harbor Boulevard/Nutmeg Place (Costa Mesa);
16. Harbor Boulevard/Baker Street (Costa Mesa);
17. Susan Street/Sunflower Avenue (Costa Mesa/Santa Ana);
18. Susan Street/South Coast Drive (Costa Mesa);
19. Fairview Street/MacArthur Boulevard (Santa Ana);
20. Fairview Road/Sunflower Avenue (Costa Mesa/Santa Ana);
21. Fairview Road/South Coast Drive (Costa Mesa);
22. Fairview Road/I-405 Freeway Northbound Ramps (Caltrans);
23. Fairview Road/I-405 Freeway Southbound Ramps (Caltrans);
24. Fairview Road/Baker Street (Costa Mesa);
25. Cadillac Avenue-Driveway 1/Sunflower Avenue (Costa Mesa);
26. Driveway 2/Sunflower Avenue (Costa Mesa);
27. FedEx Driveway-Driveway 3/Sunflower Avenue (Costa Mesa);
28. Talbert Avenue/Mt. Washington Street (Fountain Valley); and
29. Harbor Boulevard/Segerstrom Avenue (Costa Mesa).



Source: LSA, 2019.

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Study Area Intersections

Figure 5.13-1

Freeway Segments

Freeway mainline segments typically have a peak hour capacity of 2,300 vehicles per hour per lane. As such, for a four lane freeway (two lanes each direction), the total capacity is 9,200 vehicles per lane. A project has the potential to create an impact if it adds greater than 1 percent or more two-way peak hour project traffic (approximately 100 peak hour trips) to the freeway. This is the approach Caltrans typically recommends for inclusion in traffic impact assessments to determine project impacts at Caltrans facilities. Therefore, a merge/diverge analysis was conducted at interchanges where the project adds more than 100 two-way peak hour project trips. Additionally, freeway segments with more than 100 two-way peak hour project trips were also included in the analysis. The following freeway ramp merge/diverge and segments were analyzed:

Northbound I-405 Freeway

1. I-405 Freeway segment, south of Fairview Road On-Ramp;
2. Fairview Road On-Ramp (merge);
3. I-405 Freeway segment, between Fairview Road On-Ramp and Harbor Boulevard On-Ramp;
4. Harbor Boulevard On-Ramp (merge);
5. I-405 Freeway segment, between Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp; and
6. Hyland Avenue On-Ramp (merge).

Southbound I-405 Freeway

1. Harbor Boulevard Off-Ramp (diverge);
2. I-405 Freeway segment, between Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp;
3. Harbor Boulevard Loop On-Ramp (merge);
4. I-405 Freeway segment, between Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp;
5. Harbor Boulevard Slip-On Ramp (merge); and
6. I-405 Freeway segment, between Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (weave).

5.13.1.2 EXISTING TRAFFIC VOLUMES

Intersection Level of Service Methodology

LOS is a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. LOS is assigned along the following letter gradient where LOS A represents free-flow activity, and LOS F represents overcapacity operation. LOS definitions using the Intersection Capacity Utilization (ICU) and HCM methodologies are provided below.

Consistent with City standards, study area intersections under the jurisdiction of the City were analyzed using ICU methodology for signalized intersections and HCM (6th Edition) methodologies for unsignalized intersections. The City's ICU worksheets and the Synchro 10 software were utilized to determine the LOS for signalized and unsignalized intersections, respectively. These programs calculate LOS based on traffic volume

and intersection geometry inputs. LOS for study intersections under the jurisdiction of the Caltrans was determined using both ICU and HCM methodologies.

Intersection Capacity Utilization

ICU methodology compares the level of traffic during peak hours (volume) to the amount of traffic an intersection is able to process (capacity). The resulting volume-to-capacity (v/c) ratio is expressed in terms of LOS. The ICU establishes LOS A through F for intersections. Table 5.13-1, *LOS Criteria for Signalized Intersections (ICU Methodology)* describes LOS A through F criteria for signalized intersections using the ICU methodology.

Table 5.13-1 LOS Criteria for Signalized Intersections (ICU Methodology)

LOS	Signalized Intersection Volume-to-Capacity Ratio	Description
A	< 0.600	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	0.601 – 0.700	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	0.701– 0.800	This level still represents stable operating conditions. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	0.801– 0.900	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	0.901– 1.000	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is attained no matter how great the demand.
F	> 1.000	This level describes forced-flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, speed can drop to zero.

Source: LSA 2020b.

Highway Capacity Manual

In the HCM methodology, control delay alone is used to characterize LOS for the entire intersection. Control delay quantifies the increase in travel time due to the traffic signal control and is a surrogate measure of driver discomfort and fuel consumption.

A complete description of the meaning of LOS can be found in the *Transportation Research Board Special Report 209*. The HCM establishes LOS A through F for intersections. Table 5.13-2, *LOS Criteria for Signalized and Unsignalized Intersections (HCM Methodology)* describes the LOS A through F criteria for signalized and unsignalized intersections using the HCM methodology.

Table 5.13-2 LOS Criteria for Signalized and Unsignalized Intersections (HCM Methodology)

LOS	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)	Description
A	≤ 10	≤ 10	Traffic operations with a control delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	> 10 and ≤ 15	> 10 and ≤ 20	Traffic operations with control delay between 10 seconds per vehicle and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
C	> 15 and ≤ 25	> 20 and ≤ 35	Traffic operations with control delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of the insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	> 25 and ≤ 35	> 35 and ≤ 55	Traffic operations with control delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	> 35 and ≤ 50	> 55 and ≤ 80	Traffic operations with control delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	> 50	> 80	Traffic operations with control delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: LSA 2020b.

Freeway Level of Service Methodology

Basic freeway segments have uniform traffic conditions and roadway characteristics. The measure used to provide an estimate of LOS is density, where density is calculated from the average vehicle flow rate per lane and the average speed. Table 5.13-3, *LOS Criteria for Freeway Analysis*, shows the correlation between LOS and flow density. LOS A represents a freeway segment with density less than or equal to 11 passenger cars per mile per lane (pc/mi/ln). LOS F represents a freeway segment with density greater than 45 pc/mi/ln.

Based on the HCM, the LOS for freeway ramps is determined by traffic flow density. Table 5.13-3 shows the correlation between LOS and traffic flow density defined in the HCM. LOS A represents traffic flow density less than or equal to 10 pc/mi/ln (all vehicles will be converted to the equivalent of passenger cars). LOS F represents overflow conditions with high density and congestion.

Based on the HCM, the LOS for freeway weaving segments is determined by traffic flow density. Table 5.13-3 shows the correlation between LOS and traffic flow density defined in the HCM. LOS A represents traffic flow density less than or equal to 10 pc/mi/ln (all vehicles will be converted to the equivalent of passenger cars).

LOS F represents a freeway weaving segment with a density greater than 43 pc/mi/ln, or where demand exceeds capacity.

For freeway segments, ramp merge/diverge study areas, and weaving segments, the Highway Capacity Software Sixth Edition (HCS 6) was used. The software calculates freeway segments and ramp merge/ diverge densities using the HCM 6 methodologies.

Table 5.13-3 LOS Criteria for Freeway Analysis

LOS	LOS Criteria for Freeway Segments (Density: pc/mi/ln)	LOS Criteria for Ramps and Ramp Junctions (Density: pc/mi/ln)	LOS Criteria for Freeway Weaving Segments (Density: pc/mi/ln)
A	≤ 11	≤ 10	≤ 10
B	>11 and <18	> 10–20	> 10–20
C	>17 and <26	> 20–28	> 20–28
D	>26 and <35	> 28–35	> 28–35
E	>35 and <45	> 35	> 35–43
F	>45	Demand exceeds capacity	>43 or demand exceeds capacity

Source: LSA 2020b.

Traffic Count Methodology

Existing traffic volumes are based on a.m. and p.m. peak hour turning movement counts collected by Counts Unlimited in March 2019. Traffic conditions were examined for the weekday a.m. and p.m. peak hour conditions. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. The p.m. peak hour is the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m. However, due to ongoing construction activities related to the I-405 Improvement Project, some of the I-405 ramps on Fairview Road were closed at the time the counts were collected. Also, some of the traffic on Fairview Street/Fairview Road was diverted because of this closure. As a result, counts collected by Counts Unlimited in September 2018 (prior to these construction activities) were used instead for all the intersections on Fairview Street/Fairview Road. A one percent growth was then added to the September 2018 counts at the study intersections along Fairview Street/Fairview Road to develop year 2019 counts at these intersections. Detailed count sheets are provided in Appendix A of the TIA; refer to Appendix M.

Typically, freeway traffic volumes are developed using Annual Average Daily Traffic (AADT) volume data published by Caltrans. The most recent Caltrans AADT are from year 2017. These volumes were utilized to develop existing (2019) conditions freeway volumes, which was used to prepare a LOS analysis. However, as shown in Appendix B of the TIA, the LOS results along the freeway segments do not appropriately reflect the traffic conditions that currently exist. Therefore, existing freeway segment bidirectional volumes are derived from the *I-405 Improvement Project Final Environmental Impact Report* (I-405 Freeway Improvement Project FEIR), dated March 2015. The I-405 Freeway Improvement Project FEIR analyzed freeway volumes under year 2009 and 2020 conditions. Freeway volumes for year 2019 were developed by interpolating the volumes between 2009 and 2020 provided in the No Build Alternative. For ramp influence areas, vehicles entering and exiting a ramp are based on peak hour turning movement counts shown in TIA Figure 4-1, *Existing Peak Hour Traffic Volumes*, of Appendix M. The percentage of trucks at study area freeway segments is reflective of the historic truck volume percentages from volume data published by Caltrans in 2017. For the project study area, trucks

consist of 3.49 percent of the daily AADT volume. The daily percentage was applied to both peak hours to estimate the number of trucks during the peak hours. The resulting trucks were converted to Passenger Car Equivalent (PCE) volumes. The concept of PCE accounts for the larger impact of trucks on traffic operations. It does so by assigning each type of truck a PCE factor that represents the number of passenger vehicles that could travel through an intersection in the same time that a particular type of truck could. Consistent with the HCM methodologies, a PCE factor of 2.0 was used for freeway segments and ramps.

Existing Traffic Conditions

As discussed above, the TIA prepared for the project includes 29 study intersections and 12 freeway ramp merge/diverge locations and segments.

Existing Traffic Level of Service

An intersection LOS analysis was conducted for existing conditions using the methodologies discussed above. Table 5.13-4, *Existing Intersection Level of Service Summary*, summarizes the results of the analysis and shows that the following intersections are currently operating at a deficient LOS:

2. Euclid Street/I-405 Freeway Northbound Ramps - Newhope Street (a.m. peak hour only);
3. I-405 Freeway Southbound Ramps/Ellis Avenue Street (p.m. peak hour only); and
28. Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours based on the City of Fountain Valley LOS Standards).

Table 5.13-4 Existing Intersection Level of Service Summary

No.	Intersection	Jurisdiction	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
1	Euclid Street/Talbert Avenue	Fountain Valley	Signal	0.66	B	0.85	D
2	Euclid Street/I-405 Northbound Ramps - Newhope Street	Caltrans	Signal	0.96	E	0.77	C
	HCM			30.70	C	34.80	C
3	I-405 Southbound Ramps/Ellis Avenue - Euclid Street[1]	Caltrans	Signal	0.77	C	0.76	C
	HCM		Signal	41.10	D	73.00	E
4	Newhope Street/Talbert Avenue	Fountain Valley	Signal	0.82	D	0.73	C
5	OCTA Bus Base - Hyland Avenue/MacArthur Boulevard	Costa Mesa	Signal	0.57	A	0.75	C
		Santa Ana	Signal	0.60	A	0.75	C
6	Hyland Avenue/Sunflower Avenue	Costa Mesa	Signal	0.28	A	0.60	A
7	Hyland Avenue/I-405 Northbound Ramps - South Coast Drive	Caltrans	Signal	0.29	A	0.51	A
	HCM			23.20	C	21.20	C
8	Harbor Boulevard/MacArthur Boulevard	Costa Mesa	Signal	0.76	C	0.77	C
		Santa Ana	Signal	0.77	C	0.78	C
9	Harbor Boulevard/Scenic Avenue - West Lake Center Drive	Costa Mesa	Signal	0.64	B	0.82	D
		Santa Ana	Signal	0.65	B	0.83	D
10	Harbor Boulevard/Sunflower Avenue	Costa Mesa	Signal	0.57	A	0.72	C
		Santa Ana	Signal	0.58	A	0.72	C
11	Harbor Boulevard/South Coast Drive	Costa Mesa	Signal	0.50	A	0.68	B
12	Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp	Caltrans	Signal	0.61	B	0.69	B
	HCM			14.90	B	20.60	C

Table 5.13-4 Existing Intersection Level of Service Summary, continued

No.	Intersection	Jurisdiction	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
13	Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp	Caltrans	Signal	0.50	A	0.64	B
	HCM			10.00	A	12.70	B
14	Harbor Boulevard/Gisler Avenue	Costa Mesa	Signal	0.58	A	0.72	C
15	Harbor Boulevard/Nutmeg Place	Costa Mesa	Signal	0.49	A	0.55	A
16	Harbor Boulevard/Baker Street	Costa Mesa	Signal	0.54	A	0.60	A
17	Susan Street/Sunflower Avenue	Costa Mesa	Signal	0.38	A	0.72	C
		Santa Ana	Signal	0.38	A	0.73	C
18	Susan Street/South Coast Drive	Costa Mesa	Signal	0.39	A	0.75	C
19	Fairview Street/MacArthur Boulevard	Santa Ana	Signal	0.69	B	0.84	D
20	Fairview Road/Sunflower Avenue	Costa Mesa	Signal	0.68	B	0.65	B
		Santa Ana	Signal	0.68	B	0.65	B
21	Fairview Road/South Coast Drive	Costa Mesa	Signal	0.69	B	0.77	C
22	Fairview Road/I-405 Northbound Ramps	Caltrans	Signal	0.64	B	0.64	B
	HCM			29.10	C	21.30	C
23	Fairview Road/I-405 Southbound Ramps	Caltrans	Signal	0.82	D	0.62	B
	HCM			20.90	C	16.20	B
24	Fairview Road/Baker Street	Costa Mesa	Signal	0.66	B	0.64	B
25	Cadillac Avenue - Driveway 1/Sunflower Avenue HCM	Costa Mesa	OWSC	8.40	A	9.50	A
26	Driveway 2/Sunflower Avenue HCM	Costa Mesa	OWSC	8.80	A	0.00	A
27	FedEx Driveway - Driveway 3/Sunflower Avenue HCM	Costa Mesa	TWSC	9.90	A	10.40	B
28	Talbert Avenue/Mt. Washington Street HCM	Fountain Valley	TWSC	>100	F	>100	F
29	Harbor Boulevard/Segerstrom Avenue	Santa Ana	Signal	0.85	D	0.85	D

Source: LSA 2020b.
Notes: OWSC = One-Way Stop Control ; TWSC = Two-Way Stop Control; HCM = Highway Capacity Manual
Delay is reported in seconds.
Shaded cell indicates deficient LOS
[1] Intersection geometry changes in future scenarios as part of the I-405 Freeway Improvement Project.
Study intersections analyzed in this report are under the jurisdictions of the Cities of Costa Mesa, Fountain Valley, and Santa Ana.
All three cities consider intersections with a v/c ratio of 0.90 (LOS D) as the upper limit of satisfactory operations for signalized intersections

Table 5.13-5, *Existing Freeway Segment and Ramp LOS*, summarizes the existing peak hour ramp merge/diverge and freeway segment LOS and shows that the following are currently operating at a deficient LOS:

Northbound I-405

6. Hyland Avenue On-Ramp (p.m. peak hour only).

Southbound I-405

7. Harbor Boulevard Off-Ramp (a.m. peak hour only);
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
9. Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);
11. Harbor Boulevard Slip-On Ramp (a.m. peak hour only); and
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (a.m. peak hour only).

Table 5.13-5 Existing Freeway Segment and Ramp LOS

I-405 Freeway	Type	Mainline Lanes	AM Peak Hour			PM Peak Hour		
			Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS
Northbound								
1. South of Fairview Road On-Ramp	Basic	6	58.1	32.2	D	55.7	37.0	E
2. Fairview Road On-Ramp	Ramp (merge)	6	54.0	31.8	D	51.0	35.6	E
3. Fairview Road On-Ramp and Harbor Boulevard On-Ramp	Basic	6	57.0	34.6	D	53.9	40.0	E
4. Harbor Boulevard On-Ramp	Ramp (merge)	6	52.7	34.1	D	45.3	40.5	E
5. Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	Basic	6	55.0	37.7	E	51.0	44.6	E
6. Hyland Avenue On-Ramp	Ramp (merge)	6	53.0	33.5	D	--	--	F
Southbound								
7. Harbor Boulevard Off-Ramp	Ramp (diverge)	6	--	--	F	53.1	33.0	D
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	Basic	6	--	--	F	54.1	39.3	E
9. Harbor Boulevard Loop On-Ramp	Ramp (merge)	6	--	--	F	42.5	38.4	E
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp	Basic	7	--	--	F	56.0	35.3	E
11. Harbor Boulevard Slip-On Ramp	Ramp (merge)	7	--	--	F	31.7	42.4	E
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	Basic (weave)	7	--	--	F	53.9	35.5	E

Source: LSA 2020b.
Notes: mi/hr = miles per hour; pc/mi/hr = passenger cars per mile per lane; "—" indicates stopped traffic where measurements are not possible.
Shaded cells indicate deficient LOS.

Bicycle, Pedestrians, and Transit

Costa Mesa follows Caltrans' standards and recognizes four classes of bicycle facilities: Class I – Bike Paths or Bike Trails, Class II – Bike Lanes, Class III – Bike Routes (On-Street), and Class IV – Protected Bike Lanes. Within the study area, Class II bike lanes exist along Hyland Avenue, Susan Street, Fairview Road, MacArthur Boulevard, Sunflower Avenue, and South Coast Drive. New bike lanes have been proposed along Harbor Boulevard, Gisler Avenue, and Baker Street in the Costa Mesa Bicycle Master Plan.

The City supports the integration of pedestrian-oriented improvements and amenities within the circulation system to improve walkability. Within the City, districts with heavy pedestrian activity have several zones that accommodate pedestrians. The zones include a frontage zone, pedestrian-through zone, street furniture zone, and an enhancement/buffer zone. TIA Figure 3-6, *City of Costa Mesa Pedestrian Opportunity Zones*, illustrates the main pedestrian districts in Costa Mesa; refer to Appendix M. Within the study area, the section of Harbor Boulevard south of Gisler Avenue has been classified as a Pedestrian Priority Area.

The Santa Ana River and the Santa Ana River Trail are located 700 feet west of the project site. The Santa Ana River Trail currently extends from Pacific Coast Highway in Huntington Beach to Green River Golf Club in Corona but will eventually connect with other segments of the trail for 110 uninterrupted miles to Big Bear Lake in the San Bernardino Mountains (SBCRP 2019). An existing bicycle path extends from the project's western boundary to the Santa Ana River Trail and north along the western boundary to Cadillac Avenue.

OCTA provides local bus and paratransit services within Orange County. OCTA has several bus routes in the City. It also has a limited-stop bus service route (Route 543) along Harbor Boulevard that stops less frequently than local service. The service originates from the Fullerton Transportation Center and passes through Anaheim, Garden Grove, and Santa Ana, before terminating at MacArthur Boulevard. The closest bus stops to the project site are located at the intersections of Harbor Boulevard/Sunflower Avenue, approximately 0.5-mile east of the project site, and Scenic Avenue/Hyland Avenue, approximately 0.5-mile north of the project site. OCTA bus lines 794 (express bus), 211, and 43 have stops at the intersection of Harbor Boulevard/Sunflower Avenue. OCTA bus line 794 (express bus) serves the Scenic Avenue/Hyland Avenue stop. The OCTA Santa Ana Bus Base is located at the intersection of Hyland Avenue and MacArthur Boulevard, approximately one mile from the project site.

5.13.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

T-1 Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

T-2 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).[2]

T-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

T-4 Result in inadequate emergency access.

Level of Service Procedures and Thresholds

Study intersections analyzed in this report are under the jurisdictions of the cities of Costa Mesa, Fountain Valley, and Santa Ana. All three cities consider intersections with a v/c ratio of 0.90 (LOS D) as the upper limit of satisfactory operations for signalized intersections. A project is considered to have a significant impact at a signalized intersection under the following conditions:

- If the project causes the LOS at an intersection to deteriorate from D to E or F.
- If an intersection already operates at LOS E or F and the project contributes to a v/c ratio greater than 0.01.

As for unsignalized intersections, a project is considered to have a significant impact under the following conditions:

[2] While this Appendix G Checklist Question has been modified by the Natural Resources Agency to address consistency with CEQA Guidelines section 15064.3, subdivision (b), which relates to use of the vehicle miles traveled (VMT) as the methodology for evaluating traffic impact, the City has not yet adopted a VMT methodology to address this updated Appendix G Checklist Question. Thus, the analysis is based on the City's adopted traffic analysis methodology, which requires use of Level of Service (LOS) to evaluate traffic impacts of a project.

- If the project causes the LOS at an intersection to deteriorate from D to E or F.
- If an intersection already operates at LOS E or F and the project contributes to the existing deficiency.

Intersections located at freeway on-ramps and off-ramps are under the jurisdiction of Caltrans. Caltrans considers an acceptable level of service to be between C and D at all intersections under its jurisdiction (delay of 45 seconds at signalized intersections and delay of 30 seconds at unsignalized intersections). However, for freeway segments and ramp merge/diverge locations, the Caltrans *Guide for the Preparation of Traffic Impact Studies* (2002) states that transition between LOS C and D may not be feasible and allows the local jurisdictions to set the LOS threshold based on local conditions. As a result, most jurisdictions in Orange County require LOS E, which is in accordance with Orange County CMP guidelines, dated October 2017. As noted, an updated CMP was considered by the OCTA Board of Directors on November 25, 2019 and is currently being considered by Southern California Association of Governments for a finding of regional consistency (OCTA 2019a).

In 1990, the voters of the State passed Proposition 111, which increased gas taxes in areas of the State with populations of 50,000 or more. Proposition 111 also required that these jurisdictions adopt CMPs. The goal of CMPs are to support regional mobility and air quality objectives by reducing traffic congestion and providing a mechanism to coordinate land decisions and infrastructure financing. CMPs are required to be tailored to local conditions. Local agencies are therefore required to adopt locally-designed thresholds of significance based on local conditions. The City of Costa Mesa deems LOS E as the appropriate LOS for freeway segments and ramp merge/diverge locations because it is consistent with local conditions and practices throughout the County.

Caltrans does not have significant impact criteria for study intersections, freeway segments, and freeway merge/diverge locations. Therefore, a significant impact occurs when the project causes a deficient condition or when the project contributes to an existing deficiency.

5.13.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approvals (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to traffic.

PPP T-1 Pursuant to Circulation Element Recommendation C-9.14, the applicant would provide detours through or around construction zones that are designed for safety and convenience, and with adequate signage for cyclists and pedestrians.

PPP T-2 The City of Costa Mesa has a traffic impact fee program. This is a cumulative impact fee which would be determined in consultation with City of Costa Mesa Transportation Services Division staff to be paid in addition to direct project improvements required of the applicant. The City of Costa Mesa Transportation Services Division shall collect the project's traffic impact fee prior to issuance of the project's first residential building permit or as otherwise agreed to in the project's Development Agreement.

PPP T-3 The City of Costa Mesa has a fair share program. As projects are approved, and a need for a capital improvement(s) are identified, the City's Capital Improvement Projects (CIP) list is updated accordingly on an annual basis. The master CIP list, overseen by the Public Services Department, identifies (by each specific capital improvement) the necessary improvement, the specific funding amount, and the status of the improvement.

SCA T-1 The City of Costa Mesa Transportation Services Division will ensure that all mitigation measures identified in the *Traffic Impact Analysis: One Metro West, City of Costa Mesa Orange County, California* (TIA), prepared by LSA, dated November 2019 and/or One Metro West Environmental Impact Report have been implemented prior to issuance of the first occupancy permit.

5.13.4 Environmental Impacts

5.13.4.1 METHODOLOGY

The TIA is intended to satisfy the requirements established by the City, as well as the requirements for the disclosure of potential impacts and mitigation measures pursuant to CEQA. The TIA examines traffic operations in the vicinity of the proposed project under the following six scenarios:

- Existing Conditions;
- Existing Plus Project Conditions;
- Future Short-Term Cumulative (2027) Baseline Conditions;
- Future Short-Term Cumulative (2027) with Project Conditions;
- General Plan Buildout (2040) Baseline Conditions; and
- General Plan Buildout (2040) with Project Conditions.

Project Traffic

Project Trip Generation

The development of trip generation for the project was the subject of much research and collaboration between LSA and the City of Costa Mesa. A number of multifamily residential projects have been proposed and analyzed, and some approved, in the City where trip generation rates were established and vetted through the CEQA and entitlement process. While LSA originally recommended use of the ITE Trip Generation Manual (10th Edition) for the residential use in the proposed project, the City directed LSA to use trip rates from the Mitigated Negative Declaration for the Westside Lofts Project (located at Monrovia Avenue and 16th Street). These rates are higher than the ITE rates for this specific use, generating an additional 2 trips a day for each dwelling unit, and are therefore considered for a more conservative assumption than the ITE rates. The Westside Lofts Project residential trip rates are similar to and slightly greater than rate schedules for multifamily residential use in previous editions of the ITE Trip Generation Manual. Based on ITE Trip Generation rates for multifamily, the project would generate 437 net trips in the a.m. and 533 net trips in the p.m. Based on the Westside Lofts Project residential trip rates, the project would generate 485 net trips in the a.m. and 590 net trips in the p.m. peak hour. As such, the trip generation for the residential component represents a higher

standard for trip making for more suburban setting multifamily residential use and does not reflect the context (mixed use in a more urban setting) or the intent of the One Metro West Project (active transportation and linked multi-purpose) trips within the greater SOCO/South Coast Metro environment.

As for the non-residential uses, the trip generation was developed using rates from the ITE Trip Generation Manual (10th Edition) for Land Uses 411 – "Public Park," 495 – "Recreational Community Center," 710 – "General Office Building," and 850 – "Supermarket." These rates are industry standards for the specific land use types and have been used in other traffic impact analyses in the City of Costa Mesa. Since the project is a mixed-use development, it is estimated that a certain percentage of trips between the land uses would be made on-site and these internal trips do not utilize the major street system. The internal trips can be made either by walking within the project site or by vehicles using internal roadways without using external streets.

An internal capture rate of 10 percent was used for both residential and non-residential uses based on City experience at other South Coast Metro locations. It should be noted that the internal trip capture does not account for investments made into active transportation for trips off-site (e.g., bicycle amenities, Santa Ana River Trail, enhanced connections for walking) and the proximity of other destinations and attractions within walking distance (e.g., SOCO). Vehicular trip reductions could be greater when considering the local context of attractions, destinations and networks linking them. The internal capture rate was applied to the overall trip generation for both uses to determine the number of internal trips for these uses. Further, the internal trips were subtracted from the overall trip generation to establish the total external trips for the uses.

Trip credits were taken for the existing industrial use to be demolished for the development of the project. The credits were calculated by obtaining existing peak hour and daily counts at the existing project driveways. The existing driveway traffic counts are included in Appendix A of the TIA; refer to Appendix M. Table 5.13-6, *Project Trip Generation*, summarizes the project trip generation, which shows the proposed project would generate 498 net trips in the a.m. peak hour, 662 net trips in the p.m. peak hour, and 6,800 net daily trips.

Table 5.13-6 Project Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Existing Uses								
General Light Industrial	345.41 TSF							
Existing Trip Generation[1]	--	**34**	**3**	**37**	**1**	**7**	**8**	**429**
Proposed Uses								
Apartment	1,057 DU							
Trip Generation[2]	--	106	433	539	423	233	656	7,103
Internal Capture [6]		(11)	(43)	(54)	(42)	(23)	(66)	(710)
Project Trip Generation (Residential)		**95**	**390**	**485**	**381**	**210**	**590**	**6,393**
Open Space	1.50 AC							
Trips / Unit[3]	--	0.01	0.01	0.02	0.06	0.05	0.11	0.78
Trip Generation	--	0	0	0	0	0	0	1
Community Center	1.50 TSF							
Trips / Unit[4]		1.16	0.60	1.76	1.09	1.22	2.31	28.82
Trip Generation		2	1	3	2	2	4	43
General Office Building	25.00 TSF							
Trip / Unit[5]	--	1.00	0.16	1.16	0.18	0.97	1.15	9.74
Trip Generation	--	25	4	29	5	24	29	244
Supermarket	6.00 TSF							
Trips / Unit[6]	--	2.29	1.53	3.82	4.71	4.53	9.24	106.78
Trip Generation	--	14	9	23	28	27	55	641
Project Trip Generation Subtotal		41	14	55	35	53	88	929
Internal Capture[7]		(4)	(1)	(5)	(4)	(5)	(9)	(93)
Project Trip Generation (Non-Residential)		**37**	**13**	**50**	**31**	**48**	**79**	**836**
Net Total Project Trip Generation		***98***	***399***	***498***	***411***	***250***	***662***	***6,800***

Source: LSA 2020b.
Notes: TSF = Thousand Square Feet; DU = Dwelling Units; AC = Acres
[1] Trip generation is based on driveway counts (peak hours and daily) collected on September 11th, 2019.
[2] Trip generation obtained from the Westside Lofts IS/MND.
[3] Rates based on Land Use 411 - "Public Park" from the ITE Trip Generation Manual, 10th Edition, Setting/Location - "General Urban/Suburban."
[4] Rates based on Land Use 495 - "Recreational Community Center" from the ITE Trip Generation Manual, 10th Edition, Setting/Location - "General Urban/Suburban."
[5] Rates based on Land Use 710 - "General Office Building" from the ITE Trip Generation Manual, 10th Edition, Setting/Location - "General Urban/Suburban."
[6] Rates based on Land Use 850 - "Supermarket" from the ITE Trip Generation Manual, 10th Edition, Setting/Location - "General Urban/Suburban."
[7] An internal capture rate of 10 percent has been used based on City experience at other South Coast Metro locations.

Project Trip Distribution and Assignment

The project trip distribution was developed using select zone model runs obtained from Orange County Transportation Analysis Model (OCTAM). Three separate distributions were considered for the existing use, and the proposed residential and non-residential uses. The select zone model plots for the proposed project have been included in Appendix D of the TIA; refer to Appendix M. TIA Figure 5-1A, *Trip Distribution – Existing Use (a.m. peak hour)*, through Figure 5-3, *Project Trip Distribution – Non-Residential*, show the trip distribution for the residential and non-residential uses at the study intersections; refer to Appendix M.

The trip generation for each land use was applied to the corresponding trip distribution pattern to develop the trip assignment for the land use. TIA Figure 5-4, *Trip Assignment – Existing Use*, through Figure 5-6, *Project Trip*

Assignment – Non-Residential, show the trip assignments for existing and project uses; refer to Appendix M. The final project trip assignment was developed by eliminating the trips from the existing use at each study intersection and adding back the trip assignment from the proposed project. TIA Figure 5-7, *Total Net Project Trip Assignment*, illustrates the total net project trip assignment; refer to Appendix M.

Future Traffic Volumes

Future Short-Term Cumulative (2027) Baseline Traffic Volumes

The proposed project would open by the year 2027. To present a future short-term cumulative traffic condition, a regional ambient growth rate of 1 percent per annum was identified and traffic volumes from approved/pending projects were developed, both of which were added to the existing traffic counts. Cumulative project information was obtained from City staff and from the adjacent jurisdictions of Fountain Valley and Santa Ana. Table 4-2, *Related Projects*, lists the cumulative projects included in this analysis and Figure 4-1, *Cumulative Projects*, illustrates the cumulative project locations; refer to Chapter 4, *Environmental Setting*. The trip generation for cumulative projects was developed using rates from the ITE Trip Generation Manual (10th Edition) and from traffic studies conducted for these projects. The cumulative projects are expected to generate 2,774 trips in the a.m. peak hour, 2,618 trips in the p.m. peak hour, and 28,348 daily trips. Table 5.13-10, *Future Short-Term Cumulative (2027) Freeway Segment and Ramp Traffic Volumes*, summarizes future short-term cumulative baseline peak hour PCE volumes at study area freeway ramp merge/diverge locations and freeway segments. As part of the I-405 Improvement Project, the intersection of I-405 Southbound Ramps/Ellis Avenue - Euclid Street intersection would be improved by adding an eastbound slip-on ramp from Ellis Avenue to the southbound I-405, thereby eliminating the dual left-turn lanes from eastbound Ellis Avenue to the existing I-405 southbound on-ramp. This freeway improvement project is scheduled to be completed before the project opening year 2027. Therefore, these improvements have been implemented for this intersection under future short-term cumulative and General Plan buildout conditions for the purpose of the TIA analysis.

General Plan Buildout (2040) Baseline Peak Hour Traffic Volumes

General Plan buildout conditions traffic volumes were developed using forecast volumes obtained from OCTAM and by applying the National Cooperative Highway Research Program (NCHRP) post-processing methodologies. The methodology was applied to all study intersections. Table 5.13-13, *General Plan Buildout (2040) Freeway Segment and Ramp Traffic Volumes*, summarizes General Plan buildout PCE volumes at study area freeway ramp merge/diverge locations and freeway segments.

VMT Methodology

The Technical Advisory states that existing VMT may be measured at the regional or city level. However, as noted before, the study area for the proposed project is distributed among three cities (Costa Mesa, Santa Ana, and Fountain Valley). Additionally, it is expected that project trips are forecast to travel beyond the study area. Therefore, for purposes of this analysis, all of Orange County has been considered as the region.

OCTAM has been used to estimate both the regional and project VMT, since it is consistent with the forecasts included in the 2018 *Orange County Long Range Transportation Plan*. OCTAM socioeconomic database for both

the base (2012) and future (2040) scenario were updated with the project land uses to calculate project VMT. Regional and project VMT were calculated from the OCTAM model runs as described below:

- **Regional Estimates**: The regional (Orange County) VMT for both base (2012) and future (2040) model scenarios were obtained from OCTAM runs. Existing (2019) VMT was developed by interpolating between base and future year VMT data, which was obtained from OCTAM.
- **Project Estimate**: Project select zone model runs were utilized to develop project VMT. Project VMT per capita was calculated for both base (2012) and future (2040) model scenarios. The existing (2019) project VMT per capita was developed by interpolating between the base and future year VMT per capita for the project.

5.13.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which there may be potentially significant or less than significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.13-1: The project could conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. [Thresholds T-1 and T-2]

Impact Analysis:

Construction Traffic

It is anticipated that construction activities would include demolition/site preparation, grading/trenching, building construction, and asphalt paving/architectural coatings. Construction of the proposed project is not anticipated to require complete closures of any street. Construction activities would result in partial street closures on Sunflower Avenue on a temporary and intermittent basis to allow for construction activities such as roadway improvements and utility undergrounding/hook ups. Any lane closures require an encroachment permit and are subject to the review and approval of the City of Costa Mesa, Transportation Services. Per the City's Circulation Element, a detour would be required to be provided around the construction zone that would be designed to ensure the safety of cyclists and pedestrians (PPP T-1). Because any lane and sidewalk closures would be temporary and complete roadway closures are not anticipated, impacts relating to lane and sidewalk closures would be less than significant.

The construction activities would require the use of construction vehicles, delivery vehicles, and haul trucks. The project would generate approximately 1,760 hauling truck trips over a 100-day demolition stage (18 trips per day) and approximately 24,250 hauling truck trips over a 400-day grading and excavation stage (61 trips per day) based on the California Emission Estimator Model, Version 2016.3.2 output detailed in Appendix C, *Air Quality and Greenhouse Gas Impact Analysis*. As such, the proposed project would generate short-term constructed-related vehicle trips. However, the proposed project's construction-related vehicle trips (up to 61 ADT) would be less than one percent of the project's operational trips (6,800 ADT) and a small fraction of the vehicle trips in the overall study area. Upon completion of construction, such trips would cease. As such, a less than significant impact would occur relating to construction trips.

Project Trip Generation (LOS)

This analysis describes the proposed project's operational impacts on the circulation system in the project vicinity. Existing, future short-term cumulative, and General Plan buildout plus project traffic volumes were developed by subtracting the trips for the existing uses from the corresponding baseline scenarios and adding the project traffic.

Existing Plus Project

Intersection Analysis

Analysis of the existing with project scenario is provided to identify direct project impacts if the project were to be built and in operation today. This scenario eliminates the effects of ambient growth and other cumulative projects and deals specifically with project impacts. TIA Figure 6-1, *Existing Plus Project Peak Hour Traffic Volumes*, illustrates existing plus project peak hour traffic volumes at study intersections under existing conditions; refer to Appendix M. TIA Table 4-A, *Existing Freeway Segment and Ramp Traffic Volumes*, summarizes peak hour PCE volumes at study area freeway ramp merge/diverge locations and freeway segments under existing conditions and existing plus project conditions; refer to Appendix M.

An intersection LOS analysis was conducted for existing plus project conditions using the methodologies previously discussed. Table 5.13-7, *Existing and Existing with Project Intersection Level of Service Summary*, summarizes the results of the analysis and shows that all intersections are projected to operate at an acceptable LOS standard, except for the following:

2. Euclid Street/I-405 Freeway Northbound Ramps - Newhope Street (a.m. peak hour only);
3. I-405 Freeway Southbound Ramps/Ellis Avenue - Euclid Street (p.m. peak hour only); and
28. Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours based on the City of Fountain Valley LOS standards).

As indicated in Table 5.13-7, all three intersections currently operate at a deficient LOS under existing without project conditions. The intersection of I-405 Freeway Southbound Ramps/Ellis Avenue - Euclid Street would be reconfigured as part of the I-405 Freeway Improvement Project. This intersection would operate at an acceptable LOS under all future scenarios with implementation of the reconfigured geometry. Therefore, no mitigation is necessary in this regard.

Based on the cities' criteria for determining significant traffic impacts, the proposed project would result in a potentially significant impact at the following intersection under the existing with project condition:

- Talbert Avenue/Mt. Washington Street (Study Intersection No. 28, based on the City of Fountain Valley LOS Standards).

Since Study Intersection Nos. 2 and 3 do not contribute a v/c ratio greater than 0.01 as indicated in Table 5.13-7, these intersections are not considered significant impacts under the existing plus project condition.

Freeway Analysis

Table 5.13-8, *Existing Freeway Segment and Ramp Levels of Service*, summarizes the existing plus project peak hour ramp merge/diverge and freeway segment LOS and shows that all freeway segments, ramp merge/diverge locations, and weaving areas are projected to operate at an acceptable LOS standard, except for the following:

Northbound I-405

6. Hyland Avenue On-Ramp (p.m. peak hour only).

Southbound I-405

7. Harbor Boulevard Off-Ramp (a.m. peak hour only);
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
9. Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);
11. Harbor Boulevard Slip-On Ramp (a.m. peak hour only); and
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (a.m. peak hour only).

As indicated in Table 5.13-8, these seven freeway ramps/segments also operate at a deficient LOS under existing conditions. As discussed under Section 5.13.2, *Thresholds of Significance*, a significant impact occurs when the project causes a deficient condition or when the project contributes to an existing deficiency. Therefore, the project would result in a potentially significant impact at the identified freeway ramps/segments.

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Table 5.13-7 Existing and Existing with Project Intersection Level of Service Summary

No.	Intersection	Jurisdiction	Traffic Control	Existing				Existing Plus Project				Peak-Hour Change		Significant Impact?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		ICU		
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM	
1	Euclid Street/Talbert Avenue	Fountain Valley	Signal	0.66	B	0.85	D	0.68	B	0.86	D	0.02	0.01	No
2	Euclid Street/I-405 Northbound Ramps - Newhope Street	Caltrans	Signal	0.96	E	0.77	C	0.96	E	0.77	C	0.00	0.00	No
	HCM			30.70	C	34.80	C	30.80	C	34.80	C	-	-	No
3	I-405 Southbound Ramps/Ellis Avenue - Euclid Street[1]	Caltrans	Signal	0.77	C	0.76	C	0.77	C	0.76	C	0.00	0.00	No
	HCM		Signal	41.10	D	73.00	E	41.10	D	73.00	E	-	-	Yes[1]
4	Newhope Street/Talbert Avenue	Fountain Valley	Signal	0.82	D	0.73	C	0.82	D	0.74	C	0.00	0.01	No
5	OCTA Bus Base - Hyland Avenue/MacArthur Boulevard	Costa Mesa	Signal	0.57	A	0.75	C	0.58	A	0.75	C	0.01	0.00	No
		Santa Ana	Signal	0.60	A	0.75	C	0.61	B	0.75	C	0.01	0.00	No
6	Hyland Avenue/Sunflower Avenue	Costa Mesa	Signal	0.28	A	0.60	A	0.40	A	0.63	B	0.12	0.03	No
7	Hyland Avenue/I-405 Northbound Ramps - South Coast Drive	Caltrans	Signal	0.29	A	0.51	A	0.32	A	0.54	A	0.03	0.03	No
	HCM			23.20	C	21.20	C	23.20	C	21.20	C	-	-	No
8	Harbor Boulevard/MacArthur Boulevard	Costa Mesa	Signal	0.76	C	0.77	C	0.76	C	0.77	C	0.00	0.00	No
		Santa Ana	Signal	0.77	C	0.78	C	0.77	C	0.78	C	0.00	0.00	No
9	Harbor Boulevard/Scenic Avenue - West Lake Center Drive	Costa Mesa	Signal	0.64	B	0.82	D	0.64	B	0.82	D	0.00	0.00	No
		Santa Ana	Signal	0.65	B	0.83	D	0.66	B	0.83	D	0.01	0.00	No
10	Harbor Boulevard/Sunflower Avenue	Costa Mesa	Signal	0.57	A	0.72	C	0.61	B	0.76	C	0.04	0.04	No
		Santa Ana	Signal	0.58	A	0.72	C	0.62	B	0.76	C	0.04	0.04	No
11	Harbor Boulevard/South Coast Drive	Costa Mesa	Signal	0.50	A	0.68	B	0.60	A	0.70	B	0.10	0.02	No
12	Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp	Caltrans	Signal	0.61	B	0.69	B	0.61	B	0.73	C	0.00	0.04	No
	HCM			14.90	B	20.60	C	15.00	B	21.60	C	-	-	No
13	Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp	Caltrans	Signal	0.50	A	0.64	B	0.51	A	0.64	B	0.01	0.00	No
	HCM			10.00	A	12.70	B	10.00	A	12.90	B	-	-	No
14	Harbor Boulevard/Gisler Avenue	Costa Mesa	Signal	0.58	A	0.72	C	0.59	A	0.73	C	0.01	0.01	No
15	Harbor Boulevard/Nutmeg Place	Costa Mesa	Signal	0.49	A	0.55	A	0.49	A	0.56	A	0.00	0.01	No
16	Harbor Boulevard/Baker Street	Costa Mesa	Signal	0.54	A	0.60	A	0.54	A	0.60	A	0.00	0.00	No
17	Susan Street/Sunflower Avenue	Costa Mesa	Signal	0.38	A	0.72	C	0.40	A	0.75	C	0.02	0.03	No
		Santa Ana	Signal	0.38	A	0.73	C	0.40	A	0.75	C	0.02	0.02	No
18	Susan Street/South Coast Drive	Costa Mesa	Signal	0.39	A	0.75	C	0.40	A	0.77	C	0.01	0.02	No

Table 5.13-7 Existing and Existing with Project Intersection Level of Service Summary, continued

No.	Intersection	Jurisdiction	Traffic Control	Existing				Existing Plus Project				Peak-Hour Change		Significant Impact?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		ICU		
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM	
19	Fairview Street/MacArthur Boulevard	Santa Ana	Signal	0.69	B	0.84	D	0.69	B	0.84	D	0.00	0.00	No
20	Fairview Road/Sunflower Avenue	Costa Mesa	Signal	0.68	B	0.65	B	0.70	B	0.66	B	0.02	0.01	No
		Santa Ana	Signal	0.68	B	0.65	B	0.70	B	0.66	B	0.02	0.01	No
21	Fairview Road/South Coast Drive	Costa Mesa	Signal	0.69	B	0.77	C	0.70	B	0.76	C	0.01	(0.01)	No
22	Fairview Road/I-405 Northbound Ramps	Caltrans	Signal	0.64	B	0.64	B	0.64	B	0.64	B	0.00	0.00	No
	HCM			29.10	C	21.30	C	29.10	C	21.60	C	-	-	No
23	Fairview Road/I-405 Southbound Ramps	Caltrans	Signal	0.82	D	0.62	B	0.82	D	0.62	B	0.00	0.00	No
	HCM			20.90	C	16.20	B	20.90	C	16.20	B	-	-	No
24	Fairview Road/Baker Street	Costa Mesa	Signal	0.66	B	0.64	B	0.66	B	0.64	B	0.00	0.00	No
25	Cadillac Avenue - Driveway 1/Sunflower Avenue HCM	Costa Mesa	OWSC	8.40	A	9.50	A	8.90	A	9.20	A	-	-	No
26	Driveway 2/Sunflower Avenue HCM	Costa Mesa	OWSC	8.80	A	0.00	A	9.90	A	9.80	A	-	-	No
27	FedEx Driveway - Driveway 3/Sunflower Avenue HCM	Costa Mesa	TWSC	9.90	A	10.40	B	15.00	C	23.10	C	-	-	No
28	Talbert Avenue/Mt. Washington Street HCM	Fountain Valley	TWSC	>100	F	>100	F	>100	F	>100	F	-	-	Yes
29	Harbor Boulevard/Segerstrom Avenue	Santa Ana	Signal	0.85	D	0.85	D	0.85	D	0.85	D	0.00	0.00	No

Source: LSA 2020b.
Notes: OWSC = One-Way Stop Control ; TWSC = Two-Way Stop Control; HCM = Highway Capacity Manual
Delay is reported in seconds.
For OWSC and TWSC intersections, the reported delay is for the worst-case movement.
Highlighted cell indicates deficient LOS
[1] Intersection geometry changes in future scenarios as part of the I-405 Improvement Project. The I-405 Improvement Project is currently under construction and is anticipated to be completed by 2023 (prior to opening of the proposed project). Upon completion of the I-405 Improvement Project, the proposed project would not result in a significant impact at this intersection.

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Table 5.13-8 Existing Freeway Segment and Ramp Levels of Service

I-405 Freeway Segment / Ramp	Mainline Lanes	Without Project						With Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS
Northbound													
1. South of Fairview Road On-Ramp	6	58.1	32.2	D	55.7	37.0	E	58.1	32.2	D	55.7	37.0	E
2. Fairview Road On-Ramp	6	54.0	31.8	D	51.0	35.6	E	54.0	31.8	D	51.0	35.6	E
3. Fairview Road On-Ramp and Harbor Boulevard On-Ramp	6	57.0	34.6	D	53.9	40.0	E	57.0	34.6	D	53.9	40.0	E
4. Harbor Boulevard On-Ramp	6	52.7	34.1	D	45.3	40.5	E	52.7	34.1	D	45.3	40.5	E
5. Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	6	55.0	37.7	E	51.0	44.6	E	55.0	37.7	E	51.0	44.6	E
6. Hyland Avenue On-Ramp	6	53.0	33.5	D	-	-	F	52.8	33.8	D	-	-	F
Southbound													
7. Harbor Boulevard Off-Ramp	6	-	-	F	53.1	33.0	D	-	-	F	53.0	33.2	D
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	6	-	-	F	54.1	39.3	E	-	-	F	54.1	39.3	E
9. Harbor Boulevard Loop On-Ramp	6	-	-	F	42.5	38.4	E	-	-	F	41.8	38.8	E
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp	7	-	-	F	56.0	35.3	E	-	-	F	55.9	35.5	E
11. Harbor Boulevard Slip-On Ramp	7	-	-	F	31.7	42.4	E	-	-	F	30.7	42.7	E
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	7	-	-	F	53.9	35.5	E	-	-	F	53.9	35.6	E

Source: LSA 2020b.

Future Short-Term (2027) Cumulative Plus Project

Intersection Analysis

An intersection LOS analysis was conducted for future short-term cumulative plus project conditions using the methodologies discussed in Section 5.13.4.1, *Methodology*. TIA Figure 6-2, *Future Short-Term Cumulative (2027) Plus Project Peak Hour Traffic Volumes*, illustrates the peak hour traffic volumes at study intersections under future short-term cumulative plus project condition; refer to Appendix M. Table 5.13-9, *Future Short-Term Cumulative (2027) Intersection Level of Service Summary*, summarizes the results of the analysis and shows that all intersections are projected to operate at an acceptable LOS standard, except for the following:

1. Euclid Street/Talbert Avenue (both a.m. and pm. peak hours based on City of Fountain Valley LOS standards);
2. Euclid Street/I-405 Northbound Ramps - Newhope Street (a.m. peak hour only);
9. Harbor Boulevard/Scenic Avenue – West Lake Center Drive (p.m. peak hour only; based on City of Santa Ana LOS standards);
19. Fairview Street/MacArthur Boulevard (p.m. peak hour only based on City of Santa Ana LOS standards);
28. Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours based on City of Fountain Valley LOS standards); and
29. Harbor Boulevard/Segerstrom Avenue (both a.m. and p.m. peak hours based on City of Santa Ana LOS standards).

As indicated in Table 5.13-9, all six intersections are forecast to operate at a deficient LOS even under future short-term cumulative baseline conditions (all except Intersection No. 23). The intersection of Fairview Road/I-405 Southbound Ramps (Study Intersection No. 23) is forecast to operate at a deficient LOS under future short-term cumulative plus project conditions using ICU methodology. However, since this intersection is under Caltrans' jurisdiction, a significant impact at this intersection is based on Caltrans' significant impact criteria which uses HCM methodology. As shown in Table 5.13-9, this intersection is forecast to operate at a satisfactory LOS under both without and with project conditions using HCM methodologies. Therefore, the project does not have a significant impact at this intersection.

Based on the cities' criteria for determining significant traffic impacts, the proposed project would result in a potentially significant impact at the following intersection under the future short-term cumulative plus project conditions:

- Talbert Avenue/Mt. Washington Street (Study Intersection No. 28, based on the City of Fountain Valley LOS Standards).

Since Study Intersection Nos. 1, 2, 9, 19, and 29 do not contribute a v/c ratio greater than 0.01 as indicated in Table 5.13-9, these intersections are not considered significant impacts under the future short-term cumulative plus project conditions.

Freeway Analysis

Table 5.13-10, *Future Short-Term Cumulative (2027) Freeway Segment and Ramp Levels of Service*, summarizes the future short-term cumulative plus project peak hour ramp merge/diverge and freeway segment LOS and shows that all ramp merge/diverge and freeway segments are projected to operate at an acceptable LOS standard, except for the following:

Northbound I-405

3. Fairview Road On-Ramp and Harbor Boulevard On-Ramp (p.m. peak hour only);
4. Harbor Boulevard On-Ramp (p.m. peak hour only);
5. Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp (p.m. peak hour only); and
6. Hyland Avenue On-Ramp (p.m. peak hour only).

Southbound I-405

7. Harbor Boulevard Off-Ramp (both a.m. and p.m. peak hours);
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
9. Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour);
11. Harbor Boulevard Slip-On Ramp (a.m. peak hour); and
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (a.m. peak hour).

As indicated in Table 5.13-10, all ten freeway ramps operate at a deficient LOS under future short-term cumulative baseline conditions. As discussed under Section 5.13.2, a significant impact occurs when the project causes an unsatisfactory condition or when the project contributes to an existing deficiency. Therefore, impacts would be potentially significant at the identified freeway ramps.

Table 5.13-9 Future Short-Term Cumulative (2027) Intersection Level of Service Summary

No.	Intersection	Jurisdiction	Traffic Control	Future Short-Term Cumulative (2027)				Future Short-Term Cumulative (2027) Plus Project				Peak-Hour Change		Significant Impact?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		ICU		
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM	
1	Euclid Street/Talbert Avenue	Fountain Valley	Signal	0.73	C	0.91	E	0.73	C	0.91	E	0.00	0.00	No
2	Euclid Street/I-405 Northbound Ramps - Newhope Street	Caltrans	Signal	1.04	F	0.82	D	1.04	F	0.83	D	0.00	0.01	No
	HCM			31.80	C	36.10	D	31.90	C	36.10	D	-	-	No
3	I-405 Southbound Ramps/Ellis Avenue - Euclid Street	Caltrans	Signal	0.80	C	0.60	A	0.80	C	0.60	A	0.00	0.00	No
	HCM		Signal	24.90	C	19.10	B	24.90	C	19.20	B	-	-	No
4	Newhope Street/Talbert Avenue	Fountain Valley	Signal	0.89	D	0.80	C	0.90	D	0.80	C	0.01	0.00	No
5	OCTA Bus Base - Hyland Avenue/MacArthur Boulevard	Costa Mesa	Signal	0.61	B	0.81	D	0.62	B	0.81	D	0.01	0.00	No
		Santa Ana	Signal	0.64	B	0.81	D	0.65	B	0.81	D	0.01	0.00	No
6	Hyland Avenue/Sunflower Avenue	Costa Mesa	Signal	0.34	A	0.58	A	0.42	A	0.68	B	0.08	0.10	No
7	Hyland Avenue/I-405 Northbound Ramps - South Coast Drive	Caltrans	Signal	0.33	A	0.64	B	0.37	A	0.66	B	0.04	0.02	No
	HCM			21.70	C	24.60	C	21.70	C	24.60	C	-	-	No
8	Harbor Boulevard/MacArthur Boulevard	Costa Mesa	Signal	0.84	D	0.83	D	0.84	D	0.83	D	0.00	0.00	No
		Santa Ana	Signal	0.85	D	0.85	D	0.85	D	0.85	D	0.00	0.00	No
9	Harbor Boulevard/Scenic Avenue - West Lake Center Drive	Costa Mesa	Signal	0.72	C	0.91	E	0.72	C	0.91	E	0.00	0.00	No
		Santa Ana	Signal	0.73	C	0.92	E	0.72	C	0.92	E	(0.01)	0.00	No
10	Harbor Boulevard/Sunflower Avenue	Costa Mesa	Signal	0.66	B	0.84	D	0.71	C	0.87	D	0.05	0.03	No
		Santa Ana	Signal	0.68	B	0.84	D	0.73	C	0.87	D	0.05	0.03	No
11	Harbor Boulevard/South Coast Drive	Costa Mesa	Signal	0.57	A	0.79	C	0.66	B	0.80	C	0.09	0.01	No
12	Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp	Caltrans	Signal	0.79	C	0.77	C	0.79	C	0.82	D	0.00	0.05	No
	HCM			19.50	B	24.10	C	19.90	B	25.80	C	-	-	No
13	Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp	Caltrans	Signal	0.58	A	0.71	C	0.59	A	0.72	C	0.01	0.01	No
	HCM			12.30	B	13.40	B	12.40	B	13.70	B	-	-	No
14	Harbor Boulevard/Gisler Avenue	Costa Mesa	Signal	0.63	B	0.85	D	0.64	B	0.85	D	0.01	0.00	No
15	Harbor Boulevard/Nutmeg Place	Costa Mesa	Signal	0.56	A	0.61	B	0.56	A	0.61	B	0.00	0.00	No
16	Harbor Boulevard/Baker Street	Costa Mesa	Signal	0.58	A	0.64	B	0.58	A	0.64	B	0.00	0.00	No

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Table 5.13-9 Future Short-Term Cumulative (2027) Intersection Level of Service Summary, continued

No.	Intersection	Jurisdiction	Traffic Control	Future Short-Term Cumulative (2027)				Future Short-Term Cumulative (2027) Plus Project				Peak-Hour Change		Significant Impact?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		ICU		
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM	
17	Susan Street/Sunflower Avenue	Costa Mesa	Signal	0.47	A	0.79	C	0.49	A	0.81	D	0.02	0.02	No
		Santa Ana	Signal	0.47	A	0.79	C	0.49	A	0.82	D	0.02	0.03	No
18	Susan Street/South Coast Drive	Costa Mesa	Signal	0.42	A	0.82	D	0.43	A	0.84	D	0.01	0.02	No
19	Fairview Street/MacArthur Boulevard	Santa Ana	Signal	0.75	C	0.93	E	0.75	C	0.93	E	0.00	0.00	No
20	Fairview Road/Sunflower Avenue	Costa Mesa	Signal	0.78	C	0.74	C	0.79	C	0.74	C	0.01	0.00	No
		Santa Ana	Signal	0.79	C	0.79	C	0.80	C	0.78	C	0.01	(0.01)	No
21	Fairview Road/South Coast Drive	Costa Mesa	Signal	0.78	C	0.87	D	0.79	C	0.86	D	0.01	(0.01)	No
22	Fairview Road/I-405 Northbound Ramps	Caltrans	Signal	0.69	B	0.70	B	0.69	B	0.70	B	0.00	0.00	No
	HCM			34.50	C	26.30	C	34.60	C	26.30	C	-	-	No
23	Fairview Road/I-405 Southbound Ramps	Caltrans	Signal	0.90	D	0.67	B	0.90	D	0.67	B	0.00	0.00	No
	HCM			28.30	C	17.80	B	28.30	C	17.80	B	-	-	No
24	Fairview Road/Baker Street	Costa Mesa	Signal	0.72	C	0.71	C	0.72	C	0.71	C	0.00	0.00	No
25	Cadillac Avenue - Driveway 1/Sunflower Avenue HCM	Costa Mesa	OWSC	8.40	A	9.50	A	8.90	A	9.20	A	-	-	No
26	Driveway 2/Sunflower Avenue HCM	Costa Mesa	OWSC	8.80	A	0.00	A	9.90	A	9.80	A	-	-	No
27	FedEx Driveway - Driveway 3/Sunflower Avenue HCM	Costa Mesa	TWSC	9.90	A	10.50	B	15.20	C	23.90	C	-	-	No
28	Talbert Avenue/Mt. Washington Street HCM	Fountain Valley	TWSC	>100	F	>100	F	>100	F	>100	F	-	-	Yes
29	Harbor Boulevard/Segerstrom Avenue	Santa Ana	Signal	0.93	E	0.93	E	0.93	E	0.93	E	0.00	0.00	No

Source: LSA 2020b.
Notes: OWSC = One-Way Stop Control ; TWSC = Two-Way Stop Control; HCM = Highway Capacity Manual
Delay is reported in seconds.
For OWSC and TWSC intersections, the reported delay is for the worst-case movement.
Highlighted cell indicates deficient LOS
1 This intersection is forecast to operate at a deficient LOS under future short-term cumulative plus project conditions using ICU methodology. However, since this intersection is under Caltrans' jurisdiction, a significant impact at this intersection is based on Caltrans' significant impact criteria which uses HCM methodology.

Table 5.13-10 Future Short-Term Cumulative (2027) Freeway Segment and Ramp Levels of Service

I-405 Freeway Segment / Ramp	Mainline Lanes	Without Project						With Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS
Northbound													
1. South of Fairview Road On-Ramp	6	56.3	35.9	E	52.5	42.4	E	56.3	35.9	E	52.5	42.4	E
2. Fairview Road On-Ramp	6	51.9	34.7	D	41.7	41.8	E	51.9	34.7	D	41.7	41.8	E
3. Fairview Road On-Ramp and Harbor Boulevard On-Ramp	6	54.5	39.1	E	-	-	F	54.5	39.1	E	-	-	F
4. Harbor Boulevard On-Ramp	6	46.7	39.6	E	-	-	F	46.7	39.6	E	-	-	F
5. Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	6	51.7	43.4	E	-	-	F	51.7	43.4	E	-	-	F
6. Hyland Avenue On-Ramp	6	45.7	39.9	E	-	-	F	45.1	40.2	E	-	-	F
Southbound													
7. Harbor Boulevard Off-Ramp	6	-	-	F	-	-	F	-	-	F	-	-	F
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	6	-	-	F	-	-	F	-	-	F	-	-	F
9. Harbor Boulevard Loop On-Ramp	6	-	-	F	-	-	F	-	-	F	-	-	F
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp	7	-	-	F	53.1	40.9	E	-	-	F	52.9	41.1	E
11. Harbor Boulevard Slip-On Ramp	7	-	-	F	0.0	50.7	E	-	-	F	0.0	51.0	E
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	7	-	-	F	41.2	41.0	E	-	-	F	41.1	41.2	E

Source: LSA 2020b.

General Plan Buildout (2040) Plus Project

Intersection Analysis

An intersection LOS analysis was conducted for General Plan buildout conditions using the methodologies previously discussed. TIA Figure 6-3, *General Plan Build Out (2040) Plus Project Peak Hour Traffic Volumes*, illustrates the General Plan buildout condition plus project at peak hour traffic volumes at study intersections; refer to Appendix M. TIA Table 7-F, *General Plan Buildout (2040) Freeway Segment and Ramp Traffic Volumes*, summarizes peak hour PCE volumes at study area freeway ramp merge/diverge locations and freeway segments under General Plan buildout (2040) plus project condition; refer to Appendix M. Table 5.13-11, *General Plan Buildout (2040) Intersection Level of Service Summary*, summarizes the results of this analysis and shows that all intersections are projected to operate at an acceptable LOS standard, except for the following:

1. Euclid Street/Talbert Avenue (p.m. peak hour only based on City of Fountain Valley LOS standards);
2. Euclid Street/I-405 Northbound Ramps - Newhope Street (both a.m. and p.m. peak hours);
4. Newhope Street/Talbert Avenue (a.m. peak hour only based on City of Fountain Valley LOS standards);
9. Harbor Boulevard/Scenic Avenue – West Lake Center Drive (p.m. peak hour only; based on City of Santa Ana LOS standards);
18. Susan Street/Sunflower Avenue (p.m. peak hour only based on City of Costa Mesa LOS standards);
19. Fairview Street/MacArthur Boulevard (p.m. peak hour only based on City of Santa Ana LOS standards);
21. Fairview Road/South Coast Drive (p.m. peak hour only based on City of Costa Mesa LOS standards);
23. Fairview Road/I-405 Southbound Ramps (a.m. peak hour only);
28. Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours based on City of Fountain Valley LOS standards); and
29. Harbor Boulevard/Segerstrom Avenue (both a.m. and p.m. peak hours based on City of Santa Ana LOS standards).

As indicated in Table 5.13-11, ten intersections are forecast to operate at a deficient LOS even under future General Plan buildout conditions (all except Intersection No. 23). The intersection of Fairview Road/I-405 Southbound Ramps (Study Intersection No. 23) is forecast to operate at a deficient LOS under future General Plan buildout conditions using ICU methodology. Since this intersection is under Caltrans' jurisdiction, a significant impact at this intersection is based on Caltrans' significant impact criteria which uses HCM methodology. As shown in Table 5.13-11, this intersection is forecast to operate at a satisfactory LOS under both without and with project conditions using HCM methodologies. Therefore, the project does not have a significant impact at this intersection.

Based on the cities' criteria for determining significant traffic impacts, the proposed project would result in potentially significant impacts at the following intersections under the General Plan buildout plus project condition:

- Susan Street/South Coast Drive (Study Intersection No. 18, based on City of Costa Mesa LOS standards); and

- Talbert Avenue/Mt. Washington Street (Study Intersection No. 28, based on City of Fountain Valley LOS standards).

Since Study Intersection Nos. 1, 2, 4, 9, 19, 21, 23, and 29 do not contribute a v/c ratio greater than 0.01 as indicated in Table 5.13-11, these intersections are not considered significant impacts under the General Plan buildout plus project conditions.

Freeway Analysis

Table 5.13-12, *General Plan Buildout (2040) Freeway Segment and Ramp Levels of Service*, summarizes the General Plan buildout plus project peak hour ramp merge/diverge and freeway segment LOS and shows that all ramp merge/diverge locations and freeway segments are projected to operate at an unacceptable LOS standard:

Northbound I-405

1. South of Fairview Road On-Ramp (p.m. peak hour only);
2. Fairview Road On-Ramp (p.m. peak hour only);
3. Fairview Road On-Ramp and Harbor Boulevard On-Ramp (p.m. peak hour only);
4. Harbor Boulevard On-Ramp (p.m. peak hour only);
5. Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp (both a.m. and p.m. peak hours); and
6. Hyland Avenue On-Ramp (both a.m. and p.m. peak hours).

Southbound I-405

7. Harbor Boulevard Off-Ramp (both a.m. and p.m. peak hours);
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
9. Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);
11. Harbor Boulevard Slip-On Ramp (both a.m. and p.m. peak hours); and
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (both a.m. and p.m. peak hours).

As indicated in Table 5.13-12, all twelve freeway ramps are forecast to operate at a deficient LOS under General Plan buildout conditions. As discussed under Section 5.13.2, a significant impact occurs when the project causes a deficient condition or when the project contributes to an existing deficiency. As such, a potentially significant impact would occur at all twelve identified freeway roadway ramps.

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Table 5.13-11 General Plan Buildout (2040) Intersection Level of Service Summary

No.	Intersection	Jurisdiction	Traffic Control	General Plan Buildout (2040) Baseline				General Plan Buildout (2040) Baseline Plus Project				Peak-Hour Change		Significant Impact?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		ICU		
				ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	AM	PM	
1	Euclid Street/Talbert Avenue	Fountain Valley	Signal	0.76	C	0.94	E	0.77	C	0.94	E	0.01	0.00	No
2	Euclid Street/I-405 Northbound Ramps - Newhope Street	Caltrans	Signal	1.15	F	1.02	F	1.15	F	1.03	F	0.00	0.01	No
	HCM			34.30	C	37.50	D	34.40	C	37.50	D	-	-	No
3	I-405 Southbound Ramps/Ellis Avenue - Euclid Street	Caltrans	Signal	0.80	C	0.65	B	0.80	C	0.64	B	0.00	(0.01)	No
	HCM		Signal	25.60	C	21.70	C	25.60	C	21.70	C	-	-	No
4	Newhope Street/Talbert Avenue	Fountain Valley	Signal	0.96	E	0.85	D	0.96	E	0.85	D	0.00	0.00	No
5	OCTA Bus Base - Hyland Avenue/MacArthur Boulevard	Costa Mesa	Signal	0.63	B	0.85	D	0.65	B	0.85	D	0.02	0.00	No
		Santa Ana	Signal	0.66	B	0.85	D	0.68	B	0.85	D	0.02	0.00	No
6	Hyland Avenue/Sunflower Avenue	Costa Mesa	Signal	0.32	A	0.68	B	0.44	A	0.69	B	0.12	0.01	No
7	Hyland Avenue/I-405 Northbound Ramps - South Coast Drive	Caltrans	Signal	0.34	A	0.66	B	0.38	A	0.69	B	0.04	0.03	No
	HCM			21.40	C	25.80	C	21.40	C	25.80	C	-	-	No
8	Harbor Boulevard/MacArthur Boulevard	Costa Mesa	Signal	0.88	D	0.88	D	0.88	D	0.88	D	0.00	0.00	No
		Santa Ana	Signal	0.89	D	0.89	D	0.89	D	0.89	D	0.00	0.00	No
9	Harbor Boulevard/Scenic Avenue - West Lake Center Drive	Costa Mesa	Signal	0.75	C	0.96	E	0.75	C	0.96	E	0.00	0.00	No
		Santa Ana	Signal	0.76	C	0.96	E	0.75	C	0.97	E	(0.01)	0.01	No
10	Harbor Boulevard/Sunflower Avenue	Costa Mesa	Signal	0.69	B	0.86	D	0.75	C	0.90	D	0.06	0.04	No
		Santa Ana	Signal	0.72	C	0.86	D	0.78	C	0.90	D	0.06	0.04	No
11	Harbor Boulevard/South Coast Drive	Costa Mesa	Signal	0.60	A	0.83	D	0.69	B	0.83	D	0.09	0.00	No
12	Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp	Caltrans	Signal	0.83	D	0.82	D	0.84	D	0.86	D	0.01	0.04	No
	HCM			21.80	C	26.10	C	22.50	C	28.30	C	-	-	No
13	Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp	Caltrans	Signal	0.61	B	0.74	C	0.61	B	0.75	C	0.00	0.01	No
	HCM			12.50	B	13.80	B	12.50	B	14.00	B	-	-	No
14	Harbor Boulevard/Gisler Avenue	Costa Mesa	Signal	0.67	B	0.89	D	0.67	B	0.88	D	0.00	(0.01)	No
15	Harbor Boulevard/Nutmeg Place	Costa Mesa	Signal	0.58	A	0.64	B	0.58	A	0.64	B	0.00	0.00	No
16	Harbor Boulevard/Baker Street	Costa Mesa	Signal	0.60	A	0.68	B	0.61	B	0.68	B	0.01	0.00	No
17	Susan Street/Sunflower Avenue	Costa Mesa	Signal	0.51	A	0.82	D	0.53	A	0.84	D	0.02	0.02	No

Table 5.13-11 General Plan Buildout (2040) Intersection Level of Service Summary, continued

No.	Intersection	Jurisdiction	Traffic Control	General Plan Buildout (2040) Baseline				General Plan Buildout (2040) Baseline Plus Project				Peak-Hour Change		Significant Impact?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		ICU		
				ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	AM	PM	
18	Susan Street/South Coast Drive	Santa Ana	Signal	0.44	A	0.91	E	0.45	A	0.93	E	0.01	0.02	Yes
19	Fairview Street/MacArthur Boulevard	Costa Mesa	Signal	0.78	C	0.97	E	0.78	C	0.97	E	0.00	0.00	No
20	Fairview Road/Sunflower Avenue	Santa Ana	Signal	0.81	D	0.78	C	0.82	D	0.78	C	0.01	0.00	No
		Costa Mesa	Signal	0.81	D	0.82	D	0.82	D	0.82	D	0.01	0.00	No
21	Fairview Road/South Coast Drive	Santa Ana	Signal	0.82	D	0.91	E	0.83	D	0.91	E	0.01	0.00	No
22	Fairview Road/I-405 Northbound Ramps	Costa Mesa	Signal	0.73	C	0.72	C	0.73	C	0.72	C	0.00	0.00	No
	HCM	Caltrans	Signal	40.10	D	30.60	C	40.20	D	30.60	C	-	-	No
23	Fairview Road/I-405 Southbound Ramps	Caltrans	Signal	0.92	E	0.69	B	0.92	E	0.69	B	0.00	0.00	No
	HCM			33.10	C	19.40	B	33.10	C	19.40	B	-	-	No
24	Fairview Road/Baker Street			0.74	C	0.82	D	0.74	C	0.82	D	0.00	0.00	No
25	Cadillac Avenue - Driveway 1/Sunflower Avenue HCM	Costa Mesa	Signal	8.50	A	9.60	A	9.00	A	9.30	A	-	-	No
26	Driveway 2/Sunflower Avenue HCM	Costa Mesa	OWSC	8.90	A	0.00	A	10.00	A	9.90	A	-	-	No
27	FedEx Driveway - Driveway 3/Sunflower Avenue HCM	Costa Mesa	OWSC	10.00	A	10.60	B	15.30	B	24.80	C	-	-	No
28	Talbert Avenue/Mt. Washington Street HCM	Costa Mesa	TWSC	>100	F	>100	F	>100	F	>100	F	-	-	Yes
29	Harbor Boulevard/Segerstrom Avenue	Fountain Valley	TWSC	0.98	E	0.96	E	0.98	E	0.96	E	0.00	0.00	No

Source: LSA 2020b.
Notes: OWSC = One-Way Stop Control ; TWSC = Two-Way Stop Control; HCM = Highway Capacity Manual
Delay is reported in seconds.
For OWSC and TWSC intersections, the reported delay is for the worst-case movement.
Highlighted cell indicates deficient LOS
[1] This intersection is forecast to operate at a deficient LOS under future short-term cumulative plus project conditions using ICU methodology. However, since this intersection is under Caltrans' jurisdiction, a significant impact at this intersection is based on Caltrans' significant impact criteria which uses HCM methodology.

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Table 5.13-12 General Plan Buildout (2040) Freeway Segment and Ramp Levels of Service

I-405 Freeway Segment / Ramp	Mainline Lanes	Without Project						With Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS
Northbound													
1. South of Fairview Road On-Ramp	6	54.6	38.9	E	-	-	F	54.6	38.9	E	-	-	F
2. Fairview Road On-Ramp	6	47.5	38.5	E	-	-	F	47.5	38.5	E	-	-	F
3. Fairview Road On-Ramp and Harbor Boulevard On-Ramp	6	52.3	42.8	E	-	-	F	52.3	42.8	E	-	-	F
4. Harbor Boulevard On-Ramp	6	38.7	43.6	E	-	-	F	38.7	43.6	E	-	-	F
5. Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	6	-	-	F	-	-	F	-	-	F	-	-	F
6. Hyland Avenue On-Ramp	6	-	-	F	-	-	F	-	-	F	-	-	F
Southbound													
7. Harbor Boulevard Off-Ramp	6	-	-	F	-	-	F	-	-	F	-	-	F
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	6	-	-	F	-	-	F	-	-	F	-	-	F
9. Harbor Boulevard Loop On-Ramp	6	-	-	F	-	-	F	-	-	F	-	-	F
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp	7	-	-	F	50.7	44.8	E	-	-	F	-	-	F
11. Harbor Boulevard Slip-On Ramp	7	-	-	F	-	-	F	-	-	F	-	-	F
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	7	-	-	F	-	-	F	-	-	F	-	-	F

Source: LSA 2020b.

Project VMT Trip Generation

The City of Costa Mesa has not yet formally adopted VMT thresholds of significance for purposes of determining transportation impacts under CEQA. Notwithstanding, in order to address the provisions of SB 743, a VMT comparison was completed for the residential and non-residential components of the project per the California Office of Administrative Law guidance for VMT analysis. The project VMT per capita has been compared with the regional VMT per capita to provide a comparison between the two and has been included as a conservative approach.

Residential Land Use

Since residential uses represent the project's primary land use, the project VMT per capita for the residential portion of the project has been compared with the regional VMT per capita. Table 5.13-13, *Existing Regional and Project VMT Comparison*, illustrates the comparison between the estimated VMT per capita for the region and the residential portion of the project. As shown in Table 5.13-13, VMT per capita for the residential portion of the project would be 18 percent lower than the regional estimate. As the residential portion of the project would not generate VMT per capita greater than the region (Orange County), impacts would be less than significant.

Non Residential (Retail) Land Use

The project retail component is a minor component of the project with only nine anticipated retail employees. As such, the retail (supermarket) would primarily be used by residents of the project and would be a local serving retail development that would help reduce home-based retail trips and thereby reduce VMT. Additionally, per the OPR TA, for mixed-use projects, only the "project's dominant use" may be considered for VMT analysis. Since the retail component of the proposed project is not a major component and would primarily serve residents of the project itself, a separate VMT assessment is not considered.

Table 5.13-13 Existing Regional and Project VMT Comparison

Land Use	Region (Orange County)	Project	% Change
Residential	18.0	14.8	-18%
Office	25.0	25.9	3%

Source: Orange County Transportation Analysis Model (OCTAM); LSA 2020b.
Notes: Vehicle Miles Traveled

Non-Residential (Office) Land Uses

VMT per employee measure for the office use was used to compare the office component of the project to the region. Table 5.13-13 illustrates the comparison between the VMT per employee for the region and the office portion of the project. VMT per employee for the office portion of the project would be three percent higher than the regional estimate. Thus, although the City has not formally adopted VMT thresholds of significance, the office component of the project would result in potentially significant VMT impacts.

Bicycles, Pedestrians, and Transit

The City of Costa Mesa pursues strategies and programs for vehicle circulation along with other forms of mobility, including but not limited to bicycles, pedestrians, and transit. The City applies a "complete streets" strategy for street improvements. As substantiated by the discussion below, the proposed project would uphold the City's policy to require new development projects to improve access to and accommodations for multimodal transportation (Policy C-5.13).

Bicycles

The General Plan Circulation Element provides goals and policies for a bikeway system throughout the City; refer to Section 5.13.1. As stated above, Class II bike lanes exist along Hyland Avenue, Susan Street, Fairview Road, MacArthur Boulevard, Sunflower Avenue, and South Coast Drive within the project vicinity. Additionally, new bike lanes are anticipated along Harbor Boulevard, Gisler Avenue, and Baker Street per the Costa Mesa Bicycle Master Plan.

The proposed project would enhance bikeways and walkways on Sunflower Avenue and would upgrade the existing bike path that connects to the Santa Ana Regional Trail system. The project's bikeway and walkway enhancements on Sunflower Avenue would uphold the City's policy to implement road diets on street segments with excess capacity to enhance bicycle and pedestrian facilities (Policy C-1.5). A bicycle parking/active transportation hub adjacent would be installed at the 1.5-acre open space area. The proposed project would also support bicycle facilities by providing bicycle parking on-site. The project's proposed bikeway system would further the City's goal to develop an extensive bicycle and pedestrian backbone network through the use of standard and appropriate innovative treatments (Recommendation C-7.1). As such, the proposed project would support and enhance existing bicycle facilities and would be consistent with the City's goals, policies, and recommendations in place to promote development of active transportation systems. A less than significant impact would occur in this regard.

Pedestrians

The General Plan Circulation Element provides goals and policies for pedestrian mobility throughout the City; refer to Section 5.13.1. The City supports the integration of pedestrian-oriented improvements and amenities within the circulation system to improve walkability. As discussed above, the proposed project would enhance walkways on Sunflower Avenue and enhanced connectivity to the Santa Ana Regional Trail system. As such, the proposed project would support and enhance existing pedestrian facilities. The proposed project is consistent with the City's goals of promoting active transportation systems. A less than significant impact would occur in this regard.

Transit

The OCTA provides bus service for the City of Costa Mesa and in the vicinity of the project site. As noted in Section 5.13.1, the closest bus stops to the project site are located at the intersections of Harbor Boulevard/Sunflower Avenue, approximately 0.5-mile east of the project site, and Scenic Avenue/Hyland, approximately 0.5-mile north of the project site. OCTA bus lines 794 (express bus), 211, and 43 have stops at

the intersection of Harbor Boulevard/Sunflower Avenue. OCTA bus line 794 (express bus) serves the Scenic Avenue/Hyland Avenue stop. The OCTA Santa Ana Bus Base is located at the intersection of Hyland Avenue and MacArthur Boulevard, approximately one mile from the project site. Ridership may increase slightly with the addition of residents and workers to the project area. However, the project would not interrupt or displace any bus routes or facilities. A less than significant impact would occur in this regard.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.13-2: The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). [Threshold T-3]

Impact Analysis:

Access to the project site would be provided via three driveways on Sunflower Avenue. All three driveways would be full-access driveways. As such, a driveway analysis was conducted to evaluate traffic operations at the project driveways under all scenarios. As illustrated in Table 5.13-7, Table 5.13-9, and Table 5.13-11, all study intersections with a driveway (Study Intersections Nos. 25, 26, and 27) would not result in a significant impact under any scenario. Driveway 1 and Driveway 2 would operate at LOS A under all scenarios. Driveway 3 operates at a satisfactory LOS under all scenarios. Additionally, Sunflower Avenue from Cadillac Avenue to the eastern project boundary would be improved with bike paths, new sidewalks, street parking, and landscape medians to enhance the neighborhood from an industrial setting to a mixed-use residential area. The proposed improvements would also connect the new complete street section along the southern side of Sunflower Avenue with a new landscaped bicycle trail proposed along the western side of the open space area. The bicycle trail would connect the southwest portion of the project site to the Santa Ana River Trail. The complete street design is intended to enhance safe access and mobility for all users. Therefore, the proposed project would not increase hazards due to driveway location, and a less than significant impact would occur.

Based on traffic counts collected for the TIA, a maximum of 270 vehicles travel along the project frontage during the a.m. peak hour, while a maximum of 280 vehicles travel during the p.m. peak hour. Because of the low through traffic on Sunflower Avenue and the presence of the center two-way left-turn lane, project traffic would have adequate gaps to maneuver in and out of the project driveways. As such, a queuing analysis was performed using SimTraffic to determine the queues for the various movements at the driveways. Table 5.13-14, *Driveway Queuing Analysis*, summarizes the 95th percentile back-of-queue lengths at the study intersections under all scenarios. As illustrated in Table 5.13-14, the queues for the different movements at the driveways do not exceed 75 feet (the existing available turn pocket storage lengths) under any condition. Thus, there would not be any significant queues at the project driveways. According to the TIA, adequate corner sight distance would also be available at the project driveways. Therefore, the proposed project would not increase hazards due to driveway location and design, and a less than significant impact would occur.

Table 5.13-14 Driveway Queuing Analysis

Intersection	Movement	Queue Lengths (ft) [1]											
		Existing (2019)				Cumulative (2027)				General Plan Buildout (2040)			
		No Project		Plus Project		Baseline		Plus Project		Baseline		Plus Project	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
25. Cadillac Avenue - Driveway 1/	NBLR	15	0	60	55	15	25	60	55	15	25	65	60
Sunflower Avenue	EBTR	0	0	0	35	0	0	0	30	0	0	10	25
OWSC	WBL	0	0	0	0	0	0	0	25	0	0	0	30
26. Driveway 2/Sunflower Avenue	NBLR	0	0	60	60	0	0	65	60	20	0	65	65
OWSC	WBL	0	0	30	55	0	0	30	60	10	0	25	45
27. FedEx Driveway - Driveway 3/	NBLTR	0	0	70	55	0	0	70	60	0	0	75	60
Sunflower Avenue	SBLTR	0	30	15	60	0	30	15	55	10	50	20	55
TWSC	EBTR	0	0	0	0	0	0	0	0	0	0	0	0
	WBL	0	0	45	60	0	0	50	55	0	0	45	50

Source: LSA 2020b.
Notes:
ft = feet; OWSC = One-Way Stop Control; TWSC = Two-Way Strop Control; NB = Northbound; SB = Southbound; EB = Westbound; WB = Westbound; L = Left; T = Through; R = Right
[1] All queues reported are 95th percentile queues. Since Synchro does not report queues for unsignalized intersections, all queues have been reported from SimTraffic.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.13-3: The project would not result in inadequate emergency access. [Threshold T-4]

Impact Analysis:

Sunflower Avenue would continue to offer emergency access to the project site and surrounding properties during and after construction. Project construction activities could result in short-term temporary impacts to street traffic along Sunflower Avenue. While temporary lane closures may be required, travel along surrounding roadways would remain open and would not interfere with emergency access in the site vicinity. Per the City's Circulation Element, a detour would be required to be provided around the construction zone that would be designed to ensure the safety of cyclists and pedestrians (PPP T-1). Construction-related impacts would be less than significant in this regard.

The site plan for the proposed project includes a fire lane through the project site to ensure adequate emergency access to all proposed buildings on-site. As discussed above, the proposed project would result in a less than significant impact to site access. As such, the proposed project would not result in inadequate site access or design elements, and operational impacts to emergency access would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.13.5 Cumulative Impacts

Impact 5.13-4: Development of the proposed project and related projects could cumulatively conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. [Thresholds T-1 and T-2]

Impact Analysis:

Cumulative traffic impacts for future short-term cumulative (2027) and General Plan buildout (2040) using LOS are analyzed under Impact 5.13-1. Cumulative traffic impacts consider the impacts of future growth of the City and vicinity of the project site.

For the future short-term cumulative (2027) scenario, potentially significant impacts were identified for the following intersection:

- Talbert Avenue/Mt. Washington Street (Study Intersection No. 28, based on the City of Fountain Valley LOS Standards).

For the General Plan buildout (2040) scenario, potentially significant impacts were identified for the following intersections:

- Susan Street/South Coast Drive (Study Intersection No. 18, based on City of Costa Mesa LOS standards); and
- Talbert Avenue/Mt. Washington Street (Study Intersection No. 28, based on the City of Fountain Valley LOS Standards).

Future and cumulative growth would also lead to freeway ramps operating at deficient LOS. For the future short-term cumulative (2027) scenario, potentially significant impacts were identified for the freeway ramps:

Northbound I-405

3. Fairview Road On-Ramp and Harbor Boulevard On-Ramp (p.m. peak hour only);
4. Harbor Boulevard On-Ramp (p.m. peak hour only);
5. Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp (p.m. peak hour only); and
6. Hyland Avenue On-Ramp (p.m. peak hour only).

Southbound I-405

7. Harbor Boulevard Off-Ramp (both a.m. and p.m. peak hours);
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
9. Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour);
11. Harbor Boulevard Slip-On Ramp (a.m. peak hour); and
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (a.m. peak hour).

For the General Plan buildout (2040) scenario, potentially significant impacts were identified for the following freeway segments and ramps:

Northbound I-405

1. South of Fairview Road On-Ramp (p.m. peak hour only);
2. Fairview Road On-Ramp (p.m. peak hour only);
3. Fairview Road On-Ramp and Harbor Boulevard On-Ramp (p.m. peak hour only);
4. Harbor Boulevard On-Ramp (p.m. peak hour only);
5. Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp (both a.m. and p.m. peak hours); and
6. Hyland Avenue On-Ramp (both a.m. and p.m. peak hours).

Southbound I-405

7. Harbor Boulevard Off-Ramp (both a.m. and p.m. peak hours);
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
9. Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (both a.m. and p.m. peak hours);
11. Harbor Boulevard Slip-On Ramp (both a.m. and p.m. peak hours); and
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (both a.m. and p.m. peak hours).

Potentially significant impacts would be cumulatively considerable with regard to freeway segments and ramps.

The project, and cumulative projects, would also increase VMT in the region. The project's cumulative contribution to VMT would be cumulatively considerable as well.

The proposed project is consistent with adopted policies, plans, or programs regarding public transit, bicycle, and pedestrian facilities and the performance and safety of such facilities. The proposed project would not combine with the related projects to result in significant impacts to such facilities. As a result, the project would not result in cumulatively considerable impacts to transit, bicycle, and pedestrian facilities. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.13-5: Development of the proposed project and related projects would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). [Threshold T-3]

Impact Analysis:

As discussed in Impact 5.13-2, a queuing analysis was conducted to determine whether future queuing of cars would result in hazardous traffic conditions. Results of the queuing analysis detailed in Table 5.13-14 show that the proposed project would not result in significant queues at the project driveways. Further, according to the

TIA, adequate corner sight distance would be available at the project driveways. Based on Figure 4-1, the closest cumulative projects to the project site would not have the potential to interact with the proposed project and result in hazards due to geometric design features or incompatible uses. As a result, the project would not combine with other related projects to result in cumulatively considerable impacts due to geometric design features or incompatible uses. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Impact 5.13-6: Development of the proposed project and related projects would not result in cumulatively considerable impacts to emergency access. [Threshold T-4]

Impact Analysis:

As discussed in Impact 5.13-3, project construction activities would not result in inadequate emergency access during construction or operations. Although short-term construction activities along Sunflower Avenue may require temporary lane closures, travel along surrounding roadways would remain open and would not interfere with emergency access in the site vicinity. Per the City's Circulation Element, a detour would be required to be provided around the construction zone that would be designed to ensure the safety of cyclists and pedestrians (PPP T-1). Based on Figure 4-1, the closest cumulative projects to the project site would not have the potential to interact with the proposed project and result in cumulatively considerable impacts to emergency access. As a result, the project would not combine with other related projects to result in cumulatively considerable impacts to emergency access or create hazardous conditions. Impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.13.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: Impacts 5.13-2, 5.13-3, 5.13-5, and 5.13-6.

Without mitigation, the following impacts would be **potentially significant**:

Impact 5.13-1: The project could conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Impact 5.13-4: Development of the proposed project and related projects could cumulatively conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

5.13.7 Mitigation Measures

Impact 5.13-1

T-1 Prior to the issuance of the first building permit, the project applicant shall contribute its fair share contribution to the City of Costa Mesa Transportation Division for the implementation

of adding a southbound right-turn lane by restriping Susan Street at the intersection Susan Street/South Coast Drive (Study Intersection No. 18). Upon project approval, the City shall update the Capital Improvement Projects list accordingly.

T-2 Prior to the issuance of the first building permit, the project applicant shall contribute its fair share contribution to the City of Fountain Valley Transportation Division for improvements to the intersection of Talbert Avenue/Mt. Washington Street (Study Intersection No. 28), including adding a traffic signal, restriping the northbound approach to a shared left through lane and a dedicated right turn lane, converting the southbound right turn lane to a dedicated channelized free right turn lane, and adding overlap phasing for a northbound right turn movement.

Impact 5.13-4

Refer to Mitigation Measures T-1 and T-2.

5.13.8 Level of Significance After Mitigation

Impact 5.13-1

Intersections

Table 5.13-15, *Improvements for Intersections*, summarizes the scenarios and intersections where a potentially significant impact would occur. The table also summarizes the proposed improvements to mitigate the impacts. TIA Chapter 8, *Circulation Improvements and Funding Sources*, provides a discussion of each improvement; refer to Appendix M.

Table 5.13-15 Improvements for Intersections

Intersection	Existing (2019) Plus Project	Future Short-Term Cumulative (2027) Plus Project	General Plan Buildout (2040) Plus Project
18. Susan Street/South Coast Drive	No improvements required.	No improvements required.	Add a southbound right-turn lane by restriping Susan Street (Mitigation Measure T-1).
28. Talbert Avenue/Mt. Washington Street	Add a traffic signal (Mitigation Measure T-2)	Add a traffic signal. Restripe the northbound approach to a shared left through lane and a dedicated right turn lane, and convert the southbound right turn lane to a dedicated free right turn channelized lane (Mitigation Measure T-2).	Add a traffic signal. Restripe the northbound approach to a shared left through lane and a dedicated right turn lane, and convert the southbound right turn lane to a dedicated free right turn channelized lane. Add overlap phasing to the northbound right turn movement (Mitigation Measure T-2).

Source: LSA 2020b.

Study Intersection No. 18: Susan Street/South Coast Drive

As shown in Table 5.13-15, a significant impact would occur at the Susan Street/South Coast Drive intersection under General Plan Buildout (2040) Plus Project scenario. The project would be responsible for contributing towards its fair share for implementation of the proposed improvements (Mitigation Measure T-1). Mitigation

Measure T-1 would require the project applicant to contribute its fair share contribution to the City of Costa Mesa Transportation Division for the implementation of adding a southbound right-turn lane by restriping Susan Street at the intersection Susan Street/South Coast Drive (Study Intersection No. 18). As shown in Table 5.13-16, *Study Intersection No. 18 Level of Service with Recommended Improvements*, with incorporation of Mitigation Measure T-1, traffic impacts would be reduced to less than significant levels for the General Plan Buildout (2040) Plus Project scenario. However, although fair share funds to this improvement would be made, there is no guarantee that the full improvement funds would be secured nor that these improvements would be constructed. Thus, impacts would remain significant and unavoidable for the General Plan Buildout (2040) Plus Project scenario at Susan Street/South Coast Drive (Study Intersection No. 18).

Table 5.13-16 Study Intersection No. 18 Level of Service with Recommended Improvements

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
18. Susan Street/South Coast Drive	Jurisdiction	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS
General Plan Build Out (2040) Plus Project	Costa Mesa	0.45	A	0.93	E	0.40	A	0.78	C

Study Intersection No. 28: Talbert Avenue/Mt. Washington Street

As shown in Table 5.13-15, a significant impact would occur at the Talbert Avenue/Mt. Washington Street intersection under all scenarios. The Talbert Avenue/Mt. Washington Street intersection is located in the City of Fountain Valley. The project would be responsible for contributing towards its fair share for implementation of the proposed improvements (Mitigation Measure T-2). Mitigation Measure T-2 would require the project applicant to contribute its fair share contribution to the City of Fountain Valley Transportation Division for improvements to the intersection of Talbert Avenue/Mt. Washington Street (Study Intersection No. 28), including adding a traffic signal, restriping the northbound approach to a shared left through lane and a dedicated right turn lane, converting the southbound right turn lane to a dedicated channelized free right turn lane, and adding overlap phasing for a northbound right turn movement. As shown in Table 5.13-17, *Study Intersection No. 28 Level of Service with Recommended Improvements*, with incorporation of Mitigation Measure T-2, traffic impacts would be reduced to a less than significant level. While improvements are identified for this intersection, impacts would remain significant and unavoidable, since the intersection is not located within the City of Costa Mesa and there is no guarantee that the improvements identified would be implemented. As such, although impacts to this intersection could be reduced to less than significant with recommended improvements, impacts would remain significant and unavoidable.

Table 5.13-17 Study Intersection No. 28 Level of Service with Recommended Improvements

	Without Mitigation				With Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
28. Talbert Avenue/Mt. Washington Street	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS
Existing (2019) Plus Project	>100	F	>100	F	0.71	C	0.72	C
Future Short-Term Cumulative (2027) Plus Project	>100	F	>100	F	0.76	C	0.70	B
General Plan Build Out (2040) Plus Project	>100	F	>100	F	0.89	D	0.73	C

Source: LSA 2020b.
Delay is reported in seconds. Highlighted cell indicates deficient LOS

Freeway Segments and Ramps

Impact 5.13-1 shows that the identified deficient freeway segments and ramps would operate at a deficient LOS with and without the proposed project. The proposed project would contribute to the segments and ramps' deficient status. Therefore, there are project-level and cumulative impacts to the freeway system near the project site. To mitigate the impacts at the identified locations, freeway main-line and/or freeway ramp widening would be required.

However, this type of infrastructure is extremely costly and is typically infeasible for one development project to undertake. The City cannot assure the construction of improvements to freeway facilities that may be needed to improve traffic flow.

Improvements to State highway facilities are planned, funded, and constructed by the State of California through a legislative and political process involving the State legislature; the California Transportation Commission (CTC); the California Business, Transportation, and Housing Agency; Caltrans; and the Regional Transportation Planning Agency (RTPA). Although potential impacts to the freeway mainline segments and ramps have been evaluated, implementation of the transportation improvements to Caltrans facilities listed above is the primary responsibility of Caltrans. Caltrans has recognized that private development has a role to play in funding fair share improvements to impacts on these facilities, but neither Caltrans nor the State has adopted a program that can ensure that locally contributed impact fees would be tied to improvements to freeway mainlines. Only Caltrans has jurisdiction over mainline improvements. State and Federal fuel taxes generate most of the funds used to pay for improvements. Funds expected to be available for transportation improvements are identified through a fund estimate prepared by Caltrans and adopted by the CTC. These funds, along with other fund sources, are deposited in the State highway account to be programmed and allocated to specific project improvements by the CTC. However, since there is no guarantee that these programs would be implemented by the agencies with the responsibility to do so, the project's identified impacts to the freeway system are considered significant and unavoidable.

Project VMT Trip Generation

The project VMT per capita has been compared with the regional VMT per capita to provide a comparison between the two. As discussed in Table 5.13-13, proposed residential/retail components of the proposed project would result in less than significant impacts pertaining to VMT. However, the project also includes a creative office building. VMT per employee measure for the office use was used to compare the office component of the project to the region. Table 5.13-13 illustrates the comparison between the VMT per employee for the region and the office portion of the project. VMT per employee for the office portion of the project would be three percent higher than the regional estimate. Thus, although the City has not formally adopted VMT thresholds of significance, the office component of the project would result in significant VMT impacts. It should be noted, that the project is a mixed-use development that would add housing to an area within walking and biking distance to existing employment, retail, restaurant, and entertainment opportunities that could potentially further reduce VMT for the entire project. In fact, the mixed-use nature of the project along with the pedestrian and bikeway improvements are all intended to reduce the project's overall VMT.

In addition, the proposed Specific Plan and proposed project features encourage/implement VMT reduction strategies. These strategies include pedestrian network improvements, traffic calming measures (to encourage biking/walking), car-sharing programs, encouraging telecommuting and alternative work schedule, as well as encourage the use of ride-share programs. However, it is not reasonable or feasible to require these measures and/or quantify the number of reduced VMT. Thus, although these VMT reduction strategies reduce VMT impacts from the proposed creative office use, the project impacts would remain significant and unavoidable with respect to the office component and, thereby, the project as a whole.

Impact 5.13-4

Refer to the discussion above. Despite implementation of Mitigation Measures T-1 and T-2, project impacts to the identified intersections and freeway ramps would be significant and unavoidable under the existing (2019), future short-term cumulative (2027) plus project, and General Plan buildout (2040) plus project conditions. Further, the project's VMT associated with the creative office use would be significant and unavoidable. Thus, cumulative impacts would be significant and unavoidable in this regard.

5. Environmental Analysis
TRANSPORTATION

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Chapter 5.14 Tribal Cultural Resources

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5.14 TRIBAL CULTURAL RESOURCES

This section of the Draft EIR evaluates the potential for implementation of the proposed project to impact tribal cultural resources. Tribal cultural resources include landscapes, sacred places, or objects with cultural value to a California Native American Tribe. Other potential impacts to cultural resources (i.e., prehistoric, historic, and disturbance of human remains) are evaluated in Section 5.3, *Cultural Resources*.

The analysis in this section is based in part on the following information:

- *Cultural Resource Survey Report*, *City of Costa Mesa, County of Orange, California,* LSA, May 2019.
- *Preliminary Geotechnical Investigation, Proposed Multi-Family Residential Development 1683 Sunflower Avenue, Costa Mesa, California*, Geocon West Inc., July 24, 2019.

A complete copy of each study is in the technical appendices of this Draft EIR (Volume II, Appendix D, *Cultural Resources Survey Report* and Appendix E, *Preliminary Geotechnical Investigation*).

5.14.1 Environmental Setting

5.14.1.1 REGULATORY BACKGROUND

Federal

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 regulates the protection of archaeological resources and sites that are on Federal lands and Indian lands. Recognizing that archaeological resources are an irreplaceable part of America's heritage, the Act's purpose was to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites that are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act is a Federal law passed in 1990 that provides a process for museums and Federal agencies to return certain Native American cultural items, such as human remains, funerary objects, sacred objects, or objects of cultural patrimony, to lineal descendants and culturally affiliated Indian tribes.

State

Public Resources Code

Archaeological resources are protected pursuant to several State policies and regulations enumerated under the California Public Resources Code. In addition, cultural resources are recognized as a nonrenewable resource and, therefore, receive protection under the California Public Resources Code and CEQA.

California Public Resources Code 5097.9–5097.991 provides protection to Native American historical and cultural resources, and sacred sites and identifies the powers and duties of the Native American Heritage Commission (NAHC). It also requires notification to descendants of discoveries of Native American human remains and provides for treatment and disposition of human remains and associated grave goods.

Health and Safety Code

The discovery of human remains is regulated per California Health and Safety Code Section 7050.5, which states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation…until the coroner…has determined…that the remains are not subject to…provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible…. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and…has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

Senate Bill 18

Existing law provides limited protection for Native American prehistoric, archaeological, cultural, spiritual, and ceremonial places. These places may include sanctified cemeteries, religious, ceremonial sites, shrines, burial grounds, prehistoric ruins, archaeological or historic sites, Native American rock art inscriptions, or features of Native American historic, cultural, and sacred sites.

Senate Bill 18 (SB 18) on Traditional Tribal Cultural Places (TTCP) was signed into law in September 2004 and went into effect on March 1, 2005. It places new requirements upon local governments for developments within or near traditional tribal cultural places TTCPs. SB 18 requires local jurisdictions to provide opportunities for involvement of California Native Americans in the land planning process for the purpose of preserving traditional tribal cultural places. The Final Tribal Guidelines recommend the NAHC provide written information as soon as possible, but no later than, 30 days after receiving notice of the project to inform the lead agency if the proposed project is determined to be in proximity to a TTCP and another 90 days for tribes to respond to a local government if they want to consult with the local government to determine whether the project would have an adverse impact on the TTCP. There is no statutory limit on the consultation duration. Forty-five days before the action is publicly considered by the local government council, the local government refers action to agencies, following the CEQA public review time frame. The CEQA public distribution list may include tribes listed by the NAHC who have requested consultation, or it may not. If the NAHC, the tribe, and interested parties agree upon the mitigation measures necessary for the proposed project, it would be included in the project's EIR.

Per SB 18, the law institutes a new process which would require a city or county to consult with the NAHC and any appropriate Native American tribe for the purpose of preserving relevant TTCP prior to the adoption, revision, amendment, or update of a city's or county's general plan. Although SB 18 does not specifically mention consultation or notice requirements for adoption or amendment of specific plans, the Final Tribal Guidelines advise that SB 18 requirements extend to specific plans as well, since State planning law requires local governments to use the same process for amendment or adoption of specific plans as general plans (defined in Government Code Section 65453). In addition, SB 18 provides a new definition of TTCP, requiring a traditional association of the site with Native American traditional beliefs, cultural practices, or ceremonies or the site must be shown to actually have been used for activities related to traditional beliefs, cultural practices, or ceremonies. Previously, the site was defined to require only an association with traditional beliefs, practices, lifeways, and ceremonial activities. In addition, SB 18 law also amended Civil Code Section 815.3 and adds California Native American tribes to the list of entities that can acquire and hold conservation easements for the purpose of protecting their cultural places.

Assembly Bill 52

The Native American Historic Resource Protection Act (AB 52) took effect July 1, 2015, and incorporates tribal consultation and analysis of impacts to tribal cultural resources (TCR) into the CEQA process. It requires TCRs to be analyzed like any other CEQA topic and establishes a consultation process for lead agencies and California tribes. Projects that require a Notice of Preparation of an EIR or Notice of Intent to adopt a Negative Declaration (ND) or Mitigated Negative Declaration (MND) are subject to AB 52. A significant impact on a TCR is considered a significant environmental impact, requiring feasible mitigation measures.

TCRs must have certain characteristics:

1. Sites, features, places, cultural landscapes (must be geographically defined), sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources. (Public Resources Code Section 21074(a)(1))

2. The lead agency, supported by substantial evidence, chooses to treat the resource as a TCR. (Public Resources Code Section 21074(a)(2))

The first category requires the TCR qualify as an historical resource according to Public Resources Code Section 5024.1. The second category gives the lead agency discretion to qualify that resource under the conditions that it supports its determination with substantial evidence and considers the resource's significance to a California tribe. The following is a brief outline of the process (Public Resources Code Sections 21080.3.1–3.3).

1. A California Native American tribe asks agencies in the geographic area with which it is traditionally and culturally affiliated to be notified about projects. Tribes must ask in writing.

2. Within 14 days of deciding to undertake a project or determining that a project application is complete, the lead agency must provide formal written notification to all tribes who have requested it.

3. A tribe must respond within 30 days of receiving the notification if it wishes to engage in consultation.

4. The lead agency must initiate consultation within 30 days of receiving the request from the tribe.

5. Consultation concludes when both parties have agreed on measures to mitigate or avoid a significant effect to a TCR, or a party, after a reasonable effort in good faith, decides that mutual agreement cannot be reached.

6. Regardless of the outcome of consultation, the CEQA document must disclose significant impacts on TCRs and discuss feasible alternatives or mitigation that avoid or lessen the impact.

Local

General Plan

The Historical and Cultural Resources Element of the General Plan includes the following goals, objectives, and policies to protect tribal cultural resources within the City:

- **Goal HCR-1:** Historical, Archeological, and Paleontological Resource Preservation. The City of Costa Mesa supports focused efforts to provide residents with a sense of community and history through the protection and preservation of historical and cultural resources.
    - **Objective HCR-1A** Encourage preservation and protection of the City's archaeological, paleontological, and historical resources.
        - **Policy HCR-1.4:** Require, as part of the environmental review procedure, an evaluation of the significance of paleontological, archaeological, and historical resources, and the impact of proposed development on those resources.
        - **Policy HCR-1.7:** Require cultural resources studies (i.e., archaeological and historical investigations) for all applicable discretionary projects, in accordance with CEQA regulations. The studies should identify cultural resources (i.e., prehistorical sites, historical sites, and isolated artifacts and features) in the project area, determine their eligibility for inclusion in the California Register of Historical Resources, and provide mitigation measures for any resources in the project area that cannot be avoided. Cultural resources studies shall be completed by a professional archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards in prehistorical or historical archaeology.
        - **Policy HCR-1.8:** Comply with requirements of the California Environmental Quality Act regarding protection and recovery of archaeological resources discovered during development activities.

Municipal Code

Municipal Code Article 14, *Historic Preservation*, is intended to promote the public health, safety, and general welfare by providing for the identification, protection, enhancement, perpetuation and use of improvements, buildings, structures, sites, districts, neighborhoods, natural features, and significant permanent landscaping

having special historical, archaeological, cultural, architectural, or community value in the City. Pursuant to Article 14, no person, owner, or other entity shall restore, rehabilitate, alter, develop, construct, demolish, remove, or change the appearance of any cultural resource on the local Register of Historic Places without first having applied for and been granted a certificate of appropriateness to do so by the planning commission (or other commission/committee designated by the City council).

5.14.1.2 EXISTING CONDITIONS

Natural Setting

The project site is currently occupied by an approximate 345,000 square foot one-story industrial building, associated surface parking lot, drive aisles, hardscape improvements, and landscaping. The surrounding area is entirely built out and consists of similar one- to two-story industrial and office park buildings and retail uses.

The elevation of the project area is approximately 28 to 30 feet above mean sea level. The site is underlain by artificial fill and unconsolidated Holocene age alluvial fan deposits consisting of sand, silt, and clay (Geocon 2019). The project area is approximately 750 feet southeast of the current channelized alignment of the Santa Ana River. Based on historic topographic quadrangles, the project area lies directly within what was the prehistoric natural alignment of the Santa Ana River.

Ethnography

The project area is within the traditional tribal territory of the Gabrielino Indians. The word "Gabrielino" refers to the Shoshonean (Takic) speaking Native Americans who lived throughout Los Angeles, western San Bernardino and Riverside, and Orange Counties, and who were historically affiliated with Mission San Gabriel Archangel. Some of these Shoshonean people also called themselves Tong-va.

The Gabrielino were hunters and gatherers who used both inland and coastal food resources. They caught and collected seasonally occurring food resources and evolved a semi-sedentary lifestyle, living in permanent and semi-permanent villages along inland watercourses and coastal estuaries. These villages took advantage of the varied resources available at such locales. Seasonally, as foods became available, the Gabrielino moved to temporary gathering camps and collected plant foods such as acorns, buckwheat, chia, berries, or fruits. They also periodically established camps along the coast or at estuaries to gather shellfish or to hunt waterfowl.

The Gabrielino lived in small, semi-permanent villages that were the focus of family life. Patrilineally linked extended families lived within each village. These kin groups were affiliated in several village clans. Both the clans and the villages were apparently exogamous and patrilocal, as Mission records suggest that after her marriage, a woman resided at her husband's village.

Gabrielino villages were politically independent even when marriage ties existed. The village was administered by a headman who inherited his position from his father. Shamans guided religious and medical activities, and group hunting or fishing was supervised by individual male specialists.

An active and elaborate Gabrielino ritual system was present when the Spanish padres arrived to establish Mission San Gabriel. Rituals included individual rites of passage, village rites, and participation in the

widespread Chinigchinich cult. The cult of the culture hero, Chinigchinich, was observed and recorded by Franciscan Friar Geronimo Boscana while he resided at Missions San Juan Capistrano and San Luis Rey.

Records Searches in the Project Area and Surrounding Vicinity

Known Historical Resources

As analyzed in Impact 5.3-1, there are no known potential historical resources in the study area. As such, development of the proposed project would not adversely impact any resources listed or eligible for listing in the California Register of Historical Resources (CRHR) or in a local register of historical resources per Public Resources Code Section 5020.1(k).

Sacred Lands File Search and Consultation

On April 5, 2019, a Sacred Lands File search was conducted by NAHC to determine if any sacred lands or traditional cultural properties had been identified near the project site. NAHC did not identify any recorded sites within the project area that could be impacted by the proposed project.

5.14.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

TCR-1 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No impacts relating to Threshold TCR-1(i) were identified, as substantiated in Chapter 8, *Impacts Found Not to Be Significant*. This threshold is not addressed in the following analysis.

5.14.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following are existing regulatory requirements, such as plans, policies, programs (PPP), or standard conditions of approval (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to tribal cultural resources.

PPP TCR-1 The proposed project is required to comply with California Public Resources Code 5097.9–5097.991 (which protects Native American historical and cultural resources, and sacred sites); Public Resources Code 21084.3 (avoid damaging effects to any tribal cultural resource); Health and Safety Code Section 7050.5 (pertaining to the discovery or recognition of any human remains).

5.14.4 Environmental Impacts

5.14.4.1 METHODOLOGY

Cultural Resources Records Search

On March 27, 2019, LSA conducted a record search at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS), located at California State University, Fullerton. The record search included a review of all recorded historic and prehistoric archaeological sites within a 0.5-mile radius of the project area, as well as a review of known cultural resource survey and excavation reports (refer to Appendix B, *Record Search Results*, of Appendix D). In addition, the following inventories were examined:

- National Register of Historic Places
- California Register of Historical Resources
- California Historical Landmarks
- California Points of Historical Interest
- California Historic Resources Inventory

Pedestrian Field Survey

LSA conducted an intensive-level field survey of the project area on April 11, 2019. The survey focused on open, undeveloped portions of the project area. On May 30, 2019, LSA conducted a supplemental survey of additional project areas consisting of off-site improvements (Sunflower Avenue).

Native American Consultation

In May 2019, the City of Costa Mesa conducted Native American consultation pursuant to SB 18 and AB 52 requirements. Each Native American group or individual listed was sent a project notification letter and map and was asked to convey any knowledge regarding prehistoric or Native American resources (archaeological sites, sacred lands, or artifacts) located within the study area or surrounding vicinity. The letter included information such as study area location and a brief description of the proposed project. Letters were sent to the following Tribes and individuals:

- Jeff Grubbe, Chairperson, Agua Caliente Band of Cahuilla Indians
- Ralph Goff, Chairperson, Campo Band of Diegueno Mission Indians
- Andrew Salas, Chairperson, Gabrieleño Band of Mission Indians - Kizh Nation
- Robert Pinto, Chairperson, Ewiiaapaayp Tribe
- Michael Garcia, Vice Chairperson, Ewiiaapaayp Tribe

- Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Sandonne Goad, Chairperson, Gabrielino/Tongva Nation
- Robert Dorame, Chairperson, Gabrielino Tongva Indians of California Tribal Council
- Charles Alvarez, Chairperson, Gabrielino-Tongva Tribe
- Erica Pinto, Chairperson, Jamul Indian Village
- Lisa Cumper, Tribal Historic Preservation Officer, Jamul Indian Village
- Sonia Johnston, Chairperson, Juaneno Band of Mission Indians
- Matias Belardes, Chairperson, Juaneno Band of Mission Indians Acjachemen Nation
- Teresa Romero, Chairperson, Juaneno Band of Mission Indians Acjachemen Nation - Romero
- Fred Nelson, Chairperson, La Jolla Band of Luiseno Indians
- Gwendolyn Parada, Chairperson, La Posta Band of Diegueno Mission Indians
- Javaughn Miller, Tribal Administrator, La Posta Band of Diegueno Mission Indians
- Angela Elliott Santos, Chairperson, Manzanita Band of Kumeyaay Nation
- Michael Linton, Chairperson, Mesa Grande Band of Diegueno Mission Indians
- Robert Smith, Chairperson, Pala Band of Mission Indians
- Temet Aguilar, Chairperson, Pauma Band of Luiseno Indians
- Mark Macarro, Chairperson, Pechanga Band of Luiseno Indians
- Jim McPherson, Tribal Historic Preservation Officer, Rincon Band of Luiseno Indians
- Bo Mazzetti, Chairperson, Rincon Band of Luiseno Indians
- San Luis Rey Tribal Council, San Luis Rey Band of Mission Indians
- Allen Lawson, Chairperson, San Pasqual Band of Diegueno Mission Indians
- Scott Cozart, Chairperson, Soboba Band of Luiseno Indians
- Cody J. Martinez, Chairperson, Sycuan Band of the Kumeyaay Nation
- Robert Welch, Chairperson, Viejas Band of Kumeyaay Indians
- John Valenzuela, Chairperson, San Fernando Band of Mission Indians

5.14.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance that may have potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.14-1: Development of the proposed project could impact unknown tribal cultural resources. [Threshold TCR-1(ii)]

Impact Analysis:

Conducting consultation early in the CEQA process allows tribal governments, public lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to TCRs, and reduce the potential for delay and conflict in the environmental review process. The intent of the consultations is to provide an opportunity for interested Native American contacts to work together with the City during the project planning process to identify and protect TCRs.

AB 52 and SB 18 Consultation

As noted in Section 5.3, no cultural resources were identified in the records search or were observed during the field survey conducted by LSA in April 2019 and May 2019. Additionally, given the presence of fill materials in the top five feet of on-site soils and the project site's location within the prehistoric natural alignment of the Santa Ana River, the presence of TCRs is not anticipated. However, in compliance with AB 52 and SB 18, the City sent notification letters to the Native American contacts provided by the NAHC, formally inviting tribes to consult with the City on the proposed project. Of the 30 Tribal members that were sent an invitation to consult, one Tribe responded to the City's request for consultation: Andrew Salas, Chairperson, Gabrieleño Band of Mission Indians - Kizh Nation. The City conducted a formal consultation via conference call with Andrew Salas on August 20, 2019. Mr. Salas indicated there was a high potential to encounter unknown buried TCRs due to the project's proximity to a sacred village (Lupukunga), a historical water course (Santa Ana River), and a major traditional trade route (the Southern Pacific Railroad). Thus, proposed excavation/grading activities within native soils on-site have the potential to inadvertently unearth or impact undocumented TCRs. This is considered a potentially significant impact.

Level of Significance Before Mitigation: Potentially Significant Impact.

5.14.5 Cumulative Impacts

Impact 5.14-2 Development of the proposed project and related projects could result in cumulatively considerable impacts to unknown tribal cultural resources. [Threshold TCR-1(ii)]

Impact Analysis:

Table 4-2, *Related Projects*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. Cumulative impacts to TCRs would occur when the impacts of the proposed project, in conjunction with other projects, result in cumulatively considerable impacts to TCRs in the area. Each future project considered for approval would be required to comply with California Public Resources Codes 5097.9–5097.991 (which protects Native American historical and cultural resources, and sacred sites), 21084.3 (avoids damaging effects to any tribal cultural resource), and Health and Safety Code Section 7050.5 (pertaining to the discovery or recognition of any human remains), and would be required to include measures on a project-by-project basis to protect these resources if they are uncovered during grading activities (PPP TCR-1). Like the proposed project, the related cumulative projects identified in Table 4-2 would be located within an urbanized environment on sites that have been previously disturbed as a result of existing development. Nonetheless, the possibility remains that undiscovered, buried TCRs could potentially be encountered where excavation/grading occurs in native soils. As discussed in Impact 5.14-1, the proposed project has the potential to impact unknown TCRs. The potential to encounter previously undiscovered TCRs during excavation/grading is a potentially cumulatively considerable impact.

Level of Significance Before Mitigation: Potentially Significant Impact.

5.14.6 Level of Significance Before Mitigation

Without mitigation, the following impacts would be **potentially significant:**

- **Impact 5.14-1:** Development of the proposed project could impact unknown tribal cultural resources.
- **Impact 5.14-2**: Development of the proposed project and related projects could result in cumulatively considerable impacts to unknown tribal cultural resources.

5.14.7 Mitigation Measures

Impact 5.14-1

TCR-1 Prior to issuance of any grading permits, the qualified archaeologist (required pursuant to Mitigation Measure CUL-1) shall identify a Native American Monitor determined by the City of Costa Mesa and in consultation with the Native American Heritage Commission for the project grading activities and/or any other activities involving native soils. In the event unanticipated tribal cultural material is encountered during any phase of site disturbance/construction, the Native American Monitor shall be contacted and all construction work within 50 feet (15 meters) of the find shall cease until the find can be assessed. If, in consultation with the City, the discovery is determined to not be significant, work will be permitted to continue in the area. If the resources appear to be of significant tribal cultural value, they shall be professionally recovered pursuant to the requirements of Mitigation Measure CUL-1 and in consultation with the Native American Monitor identified.

Impact 5.14-2

Refer to Mitigation Measures TCR-1.

5.14.8 Level of Significance After Mitigation

Impact 5.14-1

Mitigation Measure TCR-1 would reduce potential impacts associated with unknown TCRs to a level that is less than significant. Mitigation Measure TCR-1 would ensure a qualified Native American Monitor is present during excavation activities involving native soils. If evidence of potential subsurface tribal cultural materials are found during site disturbance/excavation activities and the qualified archaeologist/Native American Monitor determines that the find is prehistoric or includes Native American materials, Mitigation Measure TCR-1 would ensure affiliated Native American groups are invited to contribute to the assessment and recovery of the found resource. With implementation of Mitigation Measure TCR-1, impacts would be reduced to less than significant levels.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

Impact 5.14-2

Refer to the discussion above. With implementation of Mitigation Measure TCR-1, project impacts to unknown TCRs would be reduced to less than significant levels and would not be cumulatively considerable.

Level of Significance After Mitigation: Less Than Significant Impact With Mitigation Incorporated.

5. Environmental Analysis
TRIBAL CULTURAL RESOURCES

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Chapter 5.15 Utilities and Service Systems

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5.15 UTILITIES AND SERVICE SYSTEMS

This section of the Draft EIR discusses the current conditions of utility providers, including water, wastewater, stormwater, solid waste, electricity, and natural gas services, and the project's potential effects on these utilities. The analysis in this section is based in part on the following information:

- *Preliminary Hydrology Report* (Hydrology Report), Urban Resource Corporation, November 1, 2019;
- *Preliminary Water Quality Management Plan* (Preliminary WQMP), Urban Resource Corporation, August 14, 2019; and
- *California Senate Bill 610 Water Supply Assessment for Mesa Water District One Metro West Project* (WSA), Michael Baker International, October 2019.

Complete copies of these studies are included in the technical appendices of this Draft EIR (Volume II, Appendix I, *Preliminary Hydrology Report*; Appendix J, *Preliminary WQMP*; and Appendix N, *Water Supply Assessment*).

5.15.1 Environmental Setting

5.15.1.1 REGULATORY BACKGROUND

Wastewater Treatment and Collection

Federal

Clean Water Act and National Pollution Elimination Discharge System

The Federal Clean Water Act (CWA) establishes regulations to control the discharge of pollutants into the Waters of the United States and regulates water quality standards for surface waters (United States Code, Title 33, Section 1251 et seq.). Under the CWA, the U.S. Environmental Protection Agency (EPA) is authorized to set wastewater standards and administers the National Pollutant Discharge Elimination System (NPDES) program. Under the NPDES program, permits are required for all new developments that discharge directly into waters of the United States. The CWA requires wastewater treatment of all effluent before it is discharged into surface waters. NPDES permits for such discharges in the project region are issued by the Santa Ana Regional Water Quality Control Board (RWQCB).

State

State Water Resources Control Board Statewide General Waste Discharge Requirements

The State Water Resources Control Board's (SWRCB) General Waste Discharge Requirements specify that all Federal and State agencies, municipalities, counties, districts, and other public entities that own or operate sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State need to develop a Sewer Master Plan. The Sewer Master Plan is required to evaluate existing sewer collection systems and provide a framework for undertaking the construction of new and replacement facilities in order to maintain proper levels of service. The Sewer Master Plan also includes:

- Inflow and infiltration studies to analyze flow monitoring and water use data;
- A capacity assurance plan to analyze the existing system with existing land use and unit flow factors;
- A condition assessment and sewer system rehabilitation plan; and
- A financial plan with recommended capital improvements and financial models.

Regional

Santa Ana Regional Water Quality Control Board General Waste Discharge Requirements

The project is regulated under the NPDES Phase I Municipal Stormwater Permits issues by the Santa Ana RWQCB for Orange County (Order No. R8-2009-0030 [NPDES Permit No. CAS618030]) (RWQCB 2009). The Order requires dischargers to adopt a Sewer System Management Plan and a grease (e.g., fats, oils and grease) control ordinance to require commercial food establishments to install and maintain sewer interceptors. The Order also requires dischargers establish other legal authority to preserve the integrity of the sewer system and prevent sewer system spills.

Orange County Sanitation District NPDES Permit

Wastewater discharge requirements for the Orange County Sanitation District (OCSD) Reclamation Plant No. 1 and Treatment Plant No. 2 are detailed in Order No. R8-2012-0035 (NPDES Permit No. CA0110604) (RWQCB 2012). The permit includes the conditions needed to meet applicable technology-based requirements. The permit includes limitations more stringent than applicable Federal technology-based requirements, where necessary, to achieve applicable water quality standards.

Orange County Sanitation District Capital Facilities Charges

The OCSD Capital Facilities Charge (Ordinance No. 40) is imposed when a property newly connects to the OCSD system or a previously connected property expands its use. Revenue generated from the charge is used for the acquisition, construction, and reconstruction of OCSD's wastewater collection, treatment, and disposal facilities; repayment of principal and interest on debt instruments; and repayment of Federal and State loans for the construction and reconstruction of sewage facilities, together with costs of administration and provisions for necessary reserves.

Orange County Sanitation District Ordinance No. 48

OCSD Ordinance No. 48 sets limits on wastewater that is discharged to sewers and conveyed to OCSD wastewater treatment plants. Ordinance No. 48 also limits concentrations of certain substances, including metals and hazardous materials, such as pesticides and petroleum-derived oil and grease.

Local

Costa Mesa Sanitary District Operations Code

The Costa Mesa Sanitary District (CMSD) is responsible for providing wastewater collection and transmission to OCSD facilities for treatment and disposal. The CMSD Operations Code codifies all existing CMSD regulations that pertain to ongoing CMSD operations to provide staff and the public with useful references to CMSD regulations. The Operations Code ensures wastewater facilities are complete, correctly operating, and

in compliance with government codes and wastewater industry practices. The Operations Code also provides interested parties with procedures, policies, and requirements for the design and construction of new CMSD wastewater infrastructure.

General Plan

The Conservation Element of the General Plan includes the following goals, objectives, and policies related to wastewater within the City:

- **Policy CON-3.A.9:** Continue to consult with the Costa Mesa Sanitation District and the Orange County Sanitation District to modernize wastewater treatment facilities to avoid overflows of untreated sewage.

Municipal Code

Municipal Code Section 15-6, *Placing Oil On Streets or in Sewers Prohibited*, states it is unlawful to place, cause, or permit to be placed or discharged any oil or petroleum products into or upon any sewers, streets, or sidewalks in the City. Municipal Code Section 15-67, *Required Construction,* establishes in-lieu fees to support the operation, maintenance, expansion, and upgrade of the City's wastewater collection and treatment system. Additionally, Municipal Code Section 13-180, *Application Requirements*, establishes limits and prohibitions on discharges into the City's sewer system and establishes a permitting process for connection to the sewer system. Municipal Code Section 13-71, *Utility Requirements,* regulates connections to the City's water and sewer system.

Water Supply and Distribution Systems

State

Water Conservation Act of 2009

Water Code Sections 10800, et seq., creates a framework for future planning and actions by urban (and agricultural) water suppliers to reduce California's water use. The law requires urban water suppliers to reduce Statewide per capita water consumption by 20 percent by 2020. Additionally, the State was required to make incremental progress towards this goal by reducing per capita water use by at least ten percent by 2015. Each urban retail water supplier was required to develop water use targets and an interim water use target by July 1, 2011. Each urban retail water supplier was required, by July 2011, to include in a water management plan the baseline daily per capita water use, water use target, interim water use target, and compliance daily per capita water use.

Urban Water Management Planning Act

The Urban Water Management Planning Act of 1983 (Water Code Sections 10610 et seq.), requires water suppliers to:

- Plan for water supply and assess reliability of each source of water over a 20-year period in 5-year increments;
- Identify and quantify adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years; and
- Implement conservation and the efficient use of urban water supplies.

Significant new requirements for quantified demand reductions were added by the Water Conservation Act of 2009, which amends the Urban Water Management Planning Act and adds new water conservation provisions to the Water Code.

Senate Bill 221

Senate Bill (SB) 221 prohibits approval of a tentative map, a parcel map for which a tentative map was not required, or a development agreement for subdivisions of more than 500 dwelling units unless the legislative body of a city or county provides written verification from the applicable public water system that a sufficient water supply is available or will be available prior to completion of the project. Sufficient water supply is defined as "the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses"(CLI 2016).

In determining sufficient water supply, all of the following factors must be considered:

- Availability of water supplies over a historical record of at least 20 years;
- Applicability of an urban water shortage contingency analysis prepared pursuant to Water Code Section 10632 that includes actions to be undertaken by the public water system in response to water supply shortages;
- Reduction in water supply allocated to a specific water use sector pursuant to a resolution or ordinance adopted or a contract entered into by the public water system; and
- Amount of water from other water supply projects such as conjunctive use, reclaimed water, water conservation, and water transfer.

In addition, the written verification of the public water system's ability or inability to provide a sufficient water supply to meet the projected demands from the proposed subdivision must be supported by substantial evidence. If the written verification relies on projected water supplies that are not currently available, the availability of said supplies must be based on written contracts or other proof of valid rights to the identified water supply; copies of a capital outlay program for financing the delivery of a sufficient water supply; securing of applicable Federal, State, and local permits for construction of necessary infrastructure; and any necessary regulatory approvals.

Senate Bill 610

SB 610 amended the Urban Water Management Planning Act to mandate that a city or county approving certain projects subject to CEQA: 1) identify any public water system that may supply water for the project and 2) request those public water systems to prepare a specified Water Supply Assessment (WSA).[1] The WSA must include:

- A discussion of whether the public water system's total projected water supplies available during normal, single-dry, and multiple-dry water years during a 20-year projection would meet the projected water demand

[1] Under Water Code Section 10912(a)(1), SB 610 applies to a CEQA project defined as "a proposed residential development of more than 500 dwelling units." Thus, a water supply assessment was prepared for the proposed project.

associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses;

- The identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts;
- A description of the quantities of water received in prior years by the public water system under the existing water supply entitlements, water rights, or water service contracts;
- A demonstration of water supply entitlements, water rights, or water service contracts;
- The identification of other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts with the same source of water as the public water system; and
- Additional information related to groundwater if it is included in the supply for the proposed project.

If SB 610 applies to a project, the WSA must be included in the environmental document prepared for the project and may include an evaluation of information in that environmental document. The WSA must determine if the projected water supplies will be sufficient to satisfy the demands of the project as well as existing and planned future uses. A WSA was prepared for the proposed project and is included as Appendix N.

Additionally, SB 610 requires new information to be included as part of an urban water management plan (UWMP) if groundwater is identified as a source of water available to the supplier. Information must include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 prohibits eligibility for funds from specified bond acts until the UWMP is submitted to the State.

Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881)

The Water Conservation in Landscaping Act of 2006, Assembly Bill (AB) 1881 required the California Department of Water Resources (DWR) to update the State Model Water Efficient Landscape Ordinance (MWELO) by 2009. The State's model ordinance was issued on October 8, 2009. Under AB 1881, cities and counties were required to adopt a State-updated model landscape water conservation ordinance by January 31, 2010, or adopt a different ordinance that is at least as effective in conserving water as the State's updated MWELO. It also requires reporting on the implementation and enforcement of local ordinances.

Executive Order B-29-15 Updated State Model Water Efficient Landscape Ordinance

To improve water savings in the landscaping sector, the MWELO was updated in accordance with Executive Order B-29-15. The updated MWELO promotes efficient landscapes in new developments and retrofitted landscapes through more efficient irrigation systems, greywater usage, and on-site stormwater capture, and by limiting the portion of landscapes that can be covered in turf.

New development projects that include landscaped areas of 500 square feet or more are subject to the MWELO. This applies to residential, commercial, industrial, and institutional projects that require a permit, plan check, or design review.

Local

Mesa Water District 2015 Urban Water Management Plan

The Urban Water Management Planning Act requires all urban water suppliers to prepare, adopt, and file a UWMP with the DWR every five years. The Mesa Water District's (MWD's) *2015 Urban Water Management Plan* (2015 UWMP) outlines current water demands, sources, and supply reliability to the City by forecasting water use based on climate, demographics, and land use changes. The plan also provides demand management measures to increase water use efficiency for various land use types, and it details a water supply contingency plan in case of shortage emergencies.

Mesa Water District Standard Specification and Standard Drawings for the Construction of Water Facilities

The purpose of MWD's *Standard Specification and Standard Drawings for the Construction of Water Facilities* procedural guide is to provide developers and their agents with the general steps for procuring water service from MWD, as well as provide the general design requirements for the preparation and processing of water improvement plans for new or expanded water service from MWD.

General Plan

The Conservation and Safety Elements of the General Plan include the following goals, objectives, and policies related to water supply and conservation within the City:

- **Policy S-2.6:** Require that water supply systems for development are adequate to combat structural fires in terms of location and minimum required fire-flow pressures.
- **Objective CON-3.A:** Work towards the protection and conservation of existing and future water resources by recognizing water as a limited resource that requires conservation.
    - **Policy CON-3.A.1:** Continue to consult with local water districts and the Orange County Water District to ensure reliable, adequate, and high-quality sources of water supply at a reasonable cost.
    - **Policy CON-3.A.2:** Encourage residents, public facilities, businesses, and industry to minimize water consumption, especially during drought years.
    - **Policy CON-3.A.3:** Restrict use of turf in new construction and landscape reinstallation that requires high irrigation demands, except for area parks and schools, and encourage the use of drought-tolerant landscaping.

Municipal Code

Municipal Code Section 13-107, *Irrigation Requirements,* describes water-efficient irrigation requirements in the City. This section establishes water-efficient landscape regulations, pursuant to AB 1881 and implements the MWELO. Municipal Code Section 13-107 requires irrigation systems be designed so that overspray, runoff, and low-head drainage onto streets, sidewalks, windows, walls, and fences are minimized. Automatic systems for watering cycles should be scheduled to maximize ground infiltration rates and further minimize runoff.

Municipal Code Section 13-71, *Utility Requirements,* regulates connections to the City's water and sewer system.

Stormwater Infrastructure

Regional

Orange County Municipal Separate Storm Sewer System Permit

Municipal storm sewer system (MS4) permits are issued by local RWQCBs to provide the means to address stormwater quality issues specific to the local watershed or region. MS4 permits require permittees to develop and implement a stormwater management program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). The stormwater management program or drainage area management plan, as it is referred to in the Orange County MS4 Permit (Order No. R8-2009-0030 [NPDES Permit No. CAS618030]), must specify best management practices (BMPs) approved by the Santa Ana RWQCB.

The proposed project and its facilities would discharge into the MS4 within the jurisdiction of Costa Mesa. Pursuant to the Orange County MS4 Permit, the City is responsible for controlling or limiting urban pollutants generated by post-construction activities from reaching their MS4s. The proposed project is, therefore, subject to the requirements of the Orange County MS4 Permit (Santa Ana Region) as it is applied by the permittee and its co-permittees.

Orange County Drainage Area Management Plan

The County's *2003 Drainage Area Management Plan* (DAMP) describes the agreements, structures and programs that:

- Provide the legal authority for prohibiting unpermitted discharges into the storm drain system and for requiring BMPs in new development and significant redevelopment;
- Improve existing municipal pollution prevention and removal BMPs to further reduce the amount of pollutants entering the storm drain system;
- Educate the public about the issue of urban stormwater and non-stormwater pollution and obtain their support in implementing pollution prevention BMPs;
- Ensure all new development and significant redevelopment incorporates appropriate site design, source control and treatment control BMPs to address specific water quality issues;
- Ensure construction sites implement control practices that address control of construction-related pollutant discharges, including erosion and sediment control and on-site hazardous materials and waste management;
- Ensure that existing development address discharges from industrial facilities, selected commercial businesses, residential development, and common interest areas/homeowner associations;
- Detect and eliminate illegal discharges/illicit connections to the municipal storm drain system;
- Identify impacted receiving waters and produce environmental quality information to direct management activities, including prioritization of pollutants to support the development of specific controls to address these problems; and
- Assess watersheds and manage urban runoff on a watershed basis (OCPW 2019).

Local

General Plan

The Land Use and Conservation Elements of the General Plan include the following goals, objectives, and policies related to storm drains within the City:

- **Policy LU-4.1:** Ensure that appropriate watershed protection activities are applied to all new development and significant redevelopment projects that are subject to the NPDES Stormwater Permit during the planning, project review, and permitting processes.
- **Policy LU-4.5:** Promote integration of stormwater quality protection into construction and post-construction activities, as required by the NPDES Stormwater Permit and the City's Local Implementation Plan.
- **Policy CON-3.A.5:** Work with public and private property owners to reduce stormwater runoff in urban areas to protect water quality in storm drainage channels, the Santa Ana River, and other local water courses that lead to the Pacific Ocean.
- **Policy CON-3.A.6:** Continue to develop strategies to promote stormwater management techniques and storm drain diversion programs that collectively and naturally filter urban runoff.
- **Policy CON-3.A.7:** Continue to comply with the NPDES Program by participating in the Countywide DAMP, which stipulates water quality requirements for minimizing urban runoff and discharge from new development and requires the provisions of applicable BMPs.
- **Policy CON-3.A.8:** Require that all applicable development projects be reviewed with regards to requirements of both the on-site Water Quality Management Plan and State requirements for runoff and obtaining a Storm Water Pollution Prevention Plan (SWPPP) permit.

Municipal Code

Municipal Code Section 13-107, *Irrigation Requirements,* requires irrigation systems be designed to reduce overspray, runoff, and low-head drainage onto streets, sidewalks, windows, walls, and fences. Automatic systems for watering cycles are required to maximize ground infiltration rates and further minimize runoff. Additionally, Municipal Code Section 8-35, *Permits,* regulates permitted and illicit connections to the City's storm drain system.

Solid Waste

Federal

Resource Conservation and Recovery Act of 1976

The Resource Conservation and Recovery Act of 1976 (Title 40 of the Code of Federal Regulations), Part 258 contains regulations for municipal solid waste landfills and requires states to implement their own permitting

programs incorporating the Federal landfill criteria. The Federal regulations address the location, operation, design (liners, leachate collection, run-off control, etc.), groundwater monitoring, and closure of landfills.

State

Assembly Bill 939

AB 939 (Integrated Solid Waste Management Act of 1989; California Public Resources Code Section 40050 et seq.) established an integrated waste management system that focuses on source reduction, recycling, composting, and land disposal of waste. AB 939 requires every city and county in California to divert 50 percent of its waste from landfills whether through waste reduction, recycling, or other means. Compliance with AB 939 is measured in part by comparing solid waste disposal rates for a jurisdiction with target disposal rates. Actual rates at or below target rates are consistent with AB 939. AB 939 also requires California counties to show 15 years of disposal capacity for all jurisdictions in the county or show a plan to transform or divert its waste.

Assembly Bill 341

AB 341 (Chapter 476, Statutes of 2011) increased the Statewide solid waste diversion goal to 75 percent by 2020. The law also mandates recycling for commercial and multi-family residential land uses as well as school districts.

Assembly Bill 1826

AB 1826 (California Public Resources Code Sections 42649.8 et seq.) requires recycling of organic matter by businesses generating such wastes in amounts over certain thresholds. AB 1826 also requires that local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses and multi-family developments that consist of five or more units (CalRecycle 2019a).

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act of 1991 instructs the California Department of Resources Recycling and Recovery (CalRecycle) to draft a "model ordinance" for the disposal of construction waste associated with development projects. This act also requires local agencies to ensure development projects have adequate areas for the collection and loading of recyclable materials.

California Green Building Standards Code

Section 5.408, *Construction Waste Reduction, Disposal, and Recycling*, of the California Green Building Standards Code (CALGreen) (Title 24, California Code of Regulations, Part 11) requires at least 50 percent of nonhazardous construction and demolition waste from non-residential construction operations be recycled and/or salvaged for reuse. CALGreen is updated on a three-year cycle; the 2016 CALGreen took effect on January 1, 2017. The 2019 CALGreen takes effect on January 1, 2020.

Local

Costa Mesa Sanitary District Operations Code

The intent of the CMSD Operations Code codifies all existing CMSD regulations that pertain to ongoing CMSD operations to provide staff and the public with useful references to CMSD regulations. The Operations Code ensures solid waste facilities are complete, correctly operating, and in compliance with government codes and solid waste industry practices.

General Plan

The Conservation Element of the General Plan includes the following goals, objectives, and policies related to solid waste within the City:

- **Policy CON-2.A.9:** Encourage waste management programs that promote waste reduction and recycling to minimize materials sent to landfills. Maintain robust programs encourage residents and businesses to reduce, reuse, recycle, and compost.
- **Policy CON-2.A.10:** Support waste management practices that provide recycling programs. Promote organic recycling, landfill diversion, zero waste goals, proper hazardous waste collections, composting, and the continuance of recycling centers.
- **Policy CON-2.A.11:** Continue construction and demolition programs that require recycling and minimize waste in haul trips.

Other Utilities

State

California Energy Commission

The California Energy Commission (CEC) was created in 1974 as the State's principal energy planning organization. The CEC is charged with six basic responsibilities when designing State energy policies:

- Forecast Statewide electricity needs;
- License power plants to meet those needs;
- Promote energy conservation and efficiency measures;
- Develop renewable energy resources and alternative energy technologies;
- Promote research, development, and demonstration; and
- Plan for and direct the State's response to energy emergencies.

California Energy Benchmarking and Disclosure

AB 1103 (2007) requires electric and gas utility service providers maintain records of energy consumption data for all nonresidential buildings to which they provide service. It also required by January 1, 2009, upon authorization of a non-residential building owner or operator, an electric or gas utility provider shall upload all available energy consumption data for the specified building to the California Environmental Protection

Agency Energy Star Portfolio Manager in a manner that preserves the confidentiality of the customer. This statute further requires a non-residential building owner or operator disclose Energy Star Portfolio Manager benchmarking data and ratings for the most recent 12-month period to a prospective buyer, lessee, or lender. Enforcement of the latter requirement began on January 1, 2014.

On October 8, 2015, AB 802 was signed into law. AB 802 directs the CEC to establish a Statewide energy benchmarking and disclosure program and enhances the CEC's existing authority to collect data from utility providers and other entities for the purposes of energy forecasting, planning, and program design. Among the specific provisions, AB 802 would require utility providers to maintain records of energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. Beginning January 1, 2017, AB 802 required each utility provider, upon the request and the written authorization or secure electronic authorization of the owner, owner's agent, or operator of a covered building, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator, or to the owner's account in the Energy Star Portfolio Manager, subject to specified requirements.

Local

General Plan

The Conservation Element of the General Plan includes the following goals, objectives, and policies related to energy within the City:

- **Objective CON-2.A:** Work to conserve energy resources in existing and new buildings, utilities, and infrastructure.
    - **Policy CON-2.A.1:** Promote efficient use of energy and conservation of available resources in the design, construction, maintenance, and operation of public and private facilities, infrastructure, and equipment.
    - **Policy CON-2.A.2:** Consult with regional agencies and utility companies to pursue energy efficiency goals. Expand renewable energy strategies to reach zero net energy for both residential and commercial new construction.
    - **Policy CON-2.A.3:** Continue to develop partnerships with participating jurisdictions to promote energy efficiency, energy conservation, and renewable energy resource development by leveraging the abilities of local governments to strengthen and reinforce the capacity of energy efficiency efforts.
    - **Policy CON-2.A.4:** Encourage new development to take advantage of Costa Mesa's optimal climate in the warming and cooling of buildings, including use of heating, ventilation and air conditioning (HVAC) systems.
    - **Policy CON-2.A.5:** Promote environmentally sustainable development principles for buildings, master planned communities, neighborhoods, and infrastructure.

- **Policy CON-2.A.6:** Encourage construction and building development practices that reduce resource expenditures throughout the lifecycle of a structure.
- **Policy CON-2.A.7:** Continue to require all City facilities and services to incorporate energy and resource conservation standards and practices and require that new municipal facilities be built within the LEED Gold standards or equivalent.
- **Policy CON-2.A.8:** Continue City green initiatives in purchases of equipment, and agreements that favor sustainable products and practices.
- **Policy CON-4.A.7:** Encourage installation of renewable energy devices for businesses and facilities and strive to reduce communitywide energy consumption.

5.15.1.2 EXISTING CONDITIONS

Wastewater Treatment and Collection

Wastewater Treatment

Wastewater from the project site is treated at OCSD's two treatment facilities: Reclamation Plant No. 1 in Fountain Valley and Treatment Plant No. 2 in Huntington Beach. Reclamation Plant No. 1 has a treatment capacity of 182 million gallons per day (mgd) for average daily flows and 274 mgd for peak wet weather flows. Treatment Plant No. 2 has a treatment capacity of 150 mgd for average daily flows and 317 mgd for peak wet weather flows. Together, the two plants currently treat approximately 185 mgd from customers throughout north and central Orange County (OCSD 2016). Therefore, the two plants have a residual capacity of approximately 147 mgd for average daily flows.

Approximately 120 mgd of wastewater treated at Reclamation Plant No. 1 is sent to the Orange County Water District (OCWD) for further treatment at the groundwater replenishment system (GWRS) facility in Fountain Valley. OCWD is currently planning to expand the GWRS capacity from 100 to 130 mgd with anticipated completion by 2023 (OCWD 2019). Water treated at the GWRS is pumped and percolated into the Orange County Groundwater Basin (OC Basin), partly to create a barrier against seawater intrusion into the OC Basin and partly for future potable reuse. An additional three mgd of effluent from Reclamation Plant No. 1 are sent to the OCWD for additional treatment in a separate facility; this reclaimed water is then delivered to customers for irrigation use.

Existing Wastewater Generation

The project site is developed with an approximate 345,000-square foot industrial building, associated surface parking lot, and ornamental landscaping. The existing generation rate for industrial uses, 3,167 gallons per acre per day (gpad), is based on OCSD's design and construction requirements for sanitary sewers (OCSD 2015). Therefore, approximately 25,083 gpad of wastewater is generated on-site by the existing industrial use.

Wastewater Conveyance

As shown on Figure 3-8, *Infrastructure Improvements – Sanitary Sewer*, the project site is currently served by an existing CMSD wastewater system in Sunflower Avenue, including the following sewer lines:

- Existing 8- and 12-inch vitrified concrete pipe sewer lines in Sunflower Avenue (18 feet south of the northerly curb), which collect and convey sewer flows (via a 12-inch stub) to an existing 84-inch OCSD mainline sewer that runs from east to west in Sunflower Avenue located 27 feet north of the southerly curb;
- Two 6-inch sewer laterals from sewer lines in Sunflower Avenue;
- An existing 48-inch OCSD sewer line that flows diagonally through the site from the Cadillac Avenue and Sunflower Avenue intersection to approximately the midpoint of the site's westerly property line.

Water Supply and Distribution Systems

MWD provides water service to approximately 108,000 customers through approximately 23,760 metered service connections (MWD 2016). Residential uses encompass the majority (approximately 70 percent) of MWD's water demand while commercial, industrial, and institutional uses encompass approximately 21 percent. Dedicated landscape irrigation encompasses approximately eight percent and construction hydrant meters and fire-line testing encompass the remaining less than one percent of MWD's water demand.

Water Supplies

MWD currently relies on a combination of clear and amber-tinted groundwater from the OC Basin for 100 percent of its demands. MWD works together with three primary agencies, Metropolitan Water District of Southern California (Metropolitan), Municipal Water District of Orange County (MWDOC), and Orange County Water District (OCWD) to ensure a safe and reliable water supply to serve the community in periods of drought and shortage.

MWD also has the ability to supplement its local groundwater with imported water purchased from Metropolitan through MWDOC. Metropolitan's principal sources of water are the Colorado River via the Colorado River Aqueduct and the Lake Oroville watershed in Northern California through the State Water Project. The water obtained from these sources is treated at the Robert B. Diemer Filtration Plant located north of Yorba Linda. Although MWD has historically relied on imported water to supplement its demands, MWD is projected to meet its future demands using local groundwater through 2040.

Historically, local groundwater has been the cheapest and most reliable source of supply for MWD. In fiscal year 2018, MWD relied on approximately 16,065 acre-feet (AF) of groundwater from the OC Basin. This water supply source meets approximately 94 percent of MWD's total annual demand. Actual and projected water supply sources and volumes for the year 2018 through 2040 are provided in Table 5.15-1, *MWD Actual Water Supplies* and Table 5.15-2, *MWD Projected Water Supplies*.

Table 5.15-1 MWD Actual Water Supplies (AF)

	Actual Volumes	
	2015	2018
Groundwater – OC Basin	16,844	16,065
Total	**16,844**	**16,065**

Source: Michael Baker International 2019.
Notes: AF = acre-feet

Table 5.15-2 MWD Projected Water Supplies (AF)

Water Supply	2020	2025	2030	2035	2040
Groundwater – Clear Wells	11,161	14,047	14,095	14,142	14,190
Groundwater – Amber Wells	4,087	5,463	5,481	5,500	5,519
In-Lieu/Coastal Pumping Transfer Program	1,000	1,100	1,100	1,100	1,100
Total	16,248	20,610	20,676	20,742	20,809

Source: Michael Baker International 2019.
Notes: AF = acre-feet

Water Demands

Potable water demands in MWD's service area are forecast to increase from 16,248 AF in 2020 to 20,809 AF in 2040; refer to Table 5.15-3, *Normal Year Supply and Demand Comparison*. MWD's available water supply is anticipated to meet projected demand.

Table 5.15-3 Normal Year Supply and Demand Comparison (AF)

	2020	2025	2030	2035	2040
Supply Total	16,248	20,610	20,676	20,742	20,809
Demand Total	16,248	20,610	20,676	20,742	20,809
Difference	**0**	**0**	**0**	**0**	**0**

Source: Michael Baker International 2019.
Notes: AF = acre-feet

MWD also anticipates having sufficient water supplies to meet demands in single dry years and multiple dry years over the 2020 to 2040 period, as shown in Table 5.15-4, *Single Dry Year Supply and Demand Comparison*, and Table 5.15-5, *Multiple Dry Years Supply and Demand Comparison*.

Table 5.15-4 Single Dry Year Supply and Demand Comparison (AF)

	2020	2025	2030	2035	2040
Supply Total	21,847	21,917	21,987	22,058	22,126
Demand Total	21,847	21,917	21,987	22,058	22,126
Difference	**0**	**0**	**0**	**0**	**0**

Source: Michael Baker International 2019.
Notes: AF = acre-feet

Table 5.15-5 Multiple Dry Years Supply and Demand Comparison (AF)

		2020	2025	2030	2035	2040
First Year	Total Supply	21,847	21,917	21,987	22,058	22,126
	Total Demand	21,847	21,917	21,987	22,058	22,126
	Difference	0	0	0	0	0
Second Year	Total Supply	21,847	21,917	21,987	22,058	22,126
	Total Demand	21,847	21,917	21,987	22,058	22,126
	Difference	0	0	0	0	0
Third Year	Total Supply	21,847	21,917	21,987	22,058	22,126
	Total Demand	21,847	21,917	21,987	22,058	22,126
	Difference	0	0	0	0	0

Source: Michael Baker International 2019.
Notes: AF = acre-feet

Water Conveyance

The project site is served by an existing 24-inch MWD domestic water line in Sunflower Avenue located six feet south of the northerly curb and an existing 18-inch domestic water line in Cadillac Avenue located six feet west of the easterly curb; refer to Figure 3-7, *Infrastructure Improvements – Domestic Water*. These MWD lines currently provide domestic water service as well as fire flow to the project site.

Stormwater Infrastructure

Regional Drainage

The City is located within the Santa Ana River Hydrologic Unit. This unit covers an area of approximately 2,700 square miles, which is within most of the Santa Ana RWQCB jurisdiction and includes portions of Orange, Los Angeles, Riverside, and San Bernardino counties. Within the Santa Ana River Hydrologic Unit, the City encompasses both the Santa Ana River Watershed (northern portion) and the Newport Bay Watershed (southern portion). The project site is in the Santa Ana River Watershed, which covers approximately 210 square miles within Orange County and is the largest watershed in the County. This watershed contains the Santa Ana River and Santiago Creek (OCPW 2011). The Santa Ana River passes about 1,000 feet northwest of the project site.

The City provides storm drain services to most of Costa Mesa and has approximately 42 miles of storm drains and 1,165 catch basins. The City is responsible for inspection, maintenance, and repair of the storm drain system. Maintenance activities include clearing blocked drains, removing debris from storm drain/catch basins structures, and cleaning and repairing damaged drain pipes. Regular maintenance and inspections assist in reducing debris and pollution from reaching the Pacific Ocean in compliance with NPDES program requirements (Costa Mesa 2019).

Local Drainage

The project site is generally flat and divided into nine drainage sub-areas that eventually drain into either an existing 66-inch cured-in-place pipe (CIPP) storm drain running from Sunflower Avenue to the I-405 Freeway along the western project boundary or a 24-inch reinforced concrete pipe storm drain located along the eastern

project boundary; refer to Figure 3-9, *Infrastructure Improvements – Storm Drain*. The existing 66-inch storm drain line is owned and maintained by the City within an existing dedicated easement.

Solid Waste

Solid Waste Collection, Recycling, and Disposal

CMSD contracts curbside refuse and recycling collection services with CR&R Environmental Services. (CMSD 2019a).

In 2017, about 93 percent of solid waste landfilled from Costa Mesa was disposed of at two facilities: the Frank R. Bowerman Sanitary Landfill in Irvine and the Prima Deshecha Landfill in San Juan Capistrano (CalRecycle 2017a). The landfills are both operated by the OC Waste and Recycling Department. Table 5.15-6, *Landfill Capacity*, details existing capacity information for the two landfills.

Table 5.15-6 Landfill Capacity

Landfill Facility	Current Remaining Capacity (cubic yards)	Maximum Daily Disposal Capacity	Average Daily Disposal (2017)[1]	Residual Daily Disposal Capacity	Estimated Close Date
Frank R. Bowerman Sanitary Landfill 11002 Bee Canyon Access Road Irvine, CA 92618	205,000,000 cubic yards	11,500 tons	7,632 tons	3,868 tons	2053
Prima Deshecha Landfill 32250 Avenida La Pata San Juan Capistrano, CA 92675	134,300,000 cubic yards	4,000 tons	1,763 tons	2,237 tons	2102
Total	**339,300,000 cubic yards**	**15,500 tons**	**9,395 tons**	**6,105 tons**	

Sources: CalRecycle 2019c, 2019d, 2017b.
Notes:
1 Average daily disposal is estimated based on 300 operating days per year. Each facility is open six days per week, Monday through Saturday, except certain holidays.

Solid Waste Diversion

Compliance with AB 939 is measured in part by actual solid waste disposal amounts compared to targets; disposal amounts equal to or lower than targets are consistent with AB 939. In 2017, solid waste disposal targets for the City were 8.5 pounds per day (ppd) for residents and 11.3 ppd for employees; actual disposal amounts were 4.8 ppd for residents and 6.2 ppd for employees (CalRecycle 2018). As such, the City is currently meeting its solid waste disposal targets pursuant to AB 939.

Existing Solid Waste Generation

Based on a solid waste generation factor of six pounds per 1,000 square feet per day for industrial uses, full occupancy of the industrial building would generate approximately 2,070 ppd of solid waste (CalRecycle 2019b).

Other Utilities

The project site is served by Southern California Edison (SCE) and Southern California Gas Company (SoCalGas) for electricity and natural gas services, respectively. Figure 3-10, *Infrastructure Improvements – Dry Utilities*, illustrates existing dry utility improvements in the project vicinity.

Electricity

The service area of SCE spans much of southern California from Orange and Riverside counties to the south to Santa Barbara County on the west and Mono County to the north. Total mid-electricity consumption in SCE's service area was 106,080 gigawatt-hour (GWh) in 2015 and is forecasted to increase to 118,803 GWh in 2027 (CEC 2016).

Natural Gas

The SoCalGas service area spans much of southern California, from San Luis Obispo in the north to the Mexico border in the south. Total natural gas supplies available to SoCalGas in the year 2019 are estimated at 3,385 million cubic feet per day (MMCF/day). Supplies are forecasted to remain constant at 3,775 MMCF/day from 2020 through 2035. Total natural gas consumption in SoCalGas's service area is forecasted to decline slightly from 2,591 MMCF/day in 2019 to 2,313 MMCF/day in 2035 (CGEU 2018).

5.15.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

U-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

U-2 Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

U-3 Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

U-4 Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

U-5 Not comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.

5.15.3 Plans, Programs, Policies, and Standard Conditions of Approval

The following existing regulatory requirements, such as plans, policies, or programs (PPP), or standard conditions of approvals (SCA), applied to the project based on Federal, State, or local laws currently in place, and which effectively reduce impacts related to utilities and service systems.

Wastewater Treatment and Collection

PPP USS-1 The project's sewer infrastructure improvements are required to be designed, constructed, and operated in accordance with the Costa Mesa Sanitary District (CMSD) Operations Code.

PPP USS-2 The project's sewer infrastructure is required to be designed, constructed, and operated in accordance with the Orange County Sanitation District (OCSD) Ordinance Nos. 40 and 48, and all wastewater discharges into OCSD facilities shall be required to comply with the discharge standards set forth to protect the public sewage system/and Waters of the United States.

PPP USS-3 The project's sewer infrastructure is required to be designed, constructed, and operated in accordance with Municipal Code Sections 15-6, *Placing Oil On Streets or in Sewers Prohibited*, 15-67, *Required Construction*, 13-180, *Application Requirements*, and 13-71, *Utility Requirements*.

Water Supply and Distribution Systems

PPP USS-4 The project's water infrastructure improvements are required to be designed, constructed, and operated in accordance with the Mesa Water District's (MWD's) *Standard Specification and Standard Drawings for the Construction of Water Facilities*.

PPP USS-5 The proposed project is required to be planned, designed, installed, and maintained in accordance with Municipal Code Section 13-107, *Irrigation Requirements*, and Section 13-71, *Utility Requirements*.

PPP USS-6 The project is required to comply with California Energy Code and Green Building Code provisions related to water and energy conservation.

SCA FIRE-24 Water mains and hydrants shall be installed to the standards of Mesa Water District's (MWD) and dedicated along with repair easements to MWD.

Stormwater Infrastructure

PPP USS-7 The project's stormwater infrastructure shall be planned, designed, installed, and maintained in accordance with Municipal Code Section 8-35, *Permits*, which regulates permitted and illicit connections to the City's storm drain system in accordance with the National Pollutant Discharge Elimination System (NPDES) permit requirements.

SCA WQMP-66 Prior to or concurrent with submittal of plans for grading, building plan check, and/or submittal of the final subdivision map for engineering plan check, the applicant shall prepare

and submit documentation for compliance with the State Water Resources Control Board (SWRCB) Water Quality Order 99-08-DWQ; National Pollutant Discharge Elimination System (NPDES) Permit No. CAS000002 for Storm Water Discharges Associated with Construction Activity (General Permit); the Santa Ana Regional Water Quality Control Board (Santa Ana RWQCB) Order No. R8-2009-0030, as amended by Order No. R82010-0062, or most recent (NPDES Permit No. CAS618030); and the City's Ordinance No. 97-20 for compliance with the NPDES permit. Such documentation shall include a Storm Water Pollution Prevention Plan (SWPPP) if over one acre and a Water Quality Management Plan (WQMP) identifying and detailing the implementation of applicable best management practices (BMPs).

SCA ENG-18 Proposed storm drain facilities shall be constructed pursuant to the *City of Costa Mesa Master Drainage Plan*.

SCA ENG-19 The project shall fulfill drainage ordinance fee requirements prior to approval of final maps and plans.

SCA ENG-21 Private on-site drainage facilities and parkway culverts or drains will not be maintained by the City and shall be maintained by the owner or developer of the property. Private lateral connections to City storm drains shall require a hold harmless agreement prior to issuance of grading or building permits.

Refer to Section 5.8, *Hydrology and Water Quality*, for a discussion of PPP HYD-2 through PPP-HYD-4.

Solid Waste

PPP USS-8 The proposed project's solid waste infrastructure improvements are required to be designed, constructed, and operated in accordance with the applicable regulations in the Costa Mesa Sanitary District (CMSD) Operations Code.

PPP USS-9 The proposed project is required to store and collect recyclable materials in compliance with AB 341 and handle green waste in accordance with AB 1826.

PPP USS-10 The proposed project is required to recycle construction waste in accordance with the California Green Building Standards Code (CALGreen) requirements.

Other Utilities

No existing regulatory requirements, such as plans, policies, programs, or standard conditions of approval related to other utilities apply to the proposed project.

5.15.4 Environmental Impacts

The following impact analysis addresses thresholds of significance for which there may be potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Wastewater Treatment and Collection

Impact 5.15-1: Existing and proposed wastewater facilities would be able to accommodate project-generated wastewater. [Thresholds U-1 and U-3]

Impact Analysis:

Project Wastewater Generation

The proposed project would allow development of up to 1,057 multi-family residential units, 25,000 square feet of commercial (creative office) space, 1,500 square feet of public/private community room use, 6,000 square feet of specialty retail use, and a 1.5-acre open space area. Based on CMSD's wastewater generation rates for the proposed land uses, the project would generate approximately 138,025 gpd of wastewater with a net wastewater generation of approximately 112,942 gpd after demolition of the existing industrial building; refer to Table 5.15-7, *Project-generated Wastewater*.

Table 5.15-7 Project-generated Wastewater

Land Uses		Proposed Buildout	Wastewater Generation Rate	Project-generated Wastewater (gpd)
Proposed Project	Open Space	1.5 acres	200 gpd per acre	300
	Multi-Family Residential	1,057 units	125 gpd per unit	132,125
	Office	25,000 square feet	200 gpd per 1,000 square feet	5,000
	Retail	6,000 square feet	100 gpd per 1,000 square feet	600
Total – Proposed Project				**138,025**
Existing Wastewater Generation – Existing Industrial Building				*-25,083*
Net Wastewater Generation				**112,942**

Source: CMSD 2019a.
Note: gpd = gallons per day

As stated above, OCSD Reclamation Plant No. 1 and Treatment Plant No. 2 have approximately 147 mgd of residual capacity based on current average flows. Therefore, the project-generated 112,942 gpd of wastewater would represent a nominal 0.07 percent of the two plants' residual capacity and would be adequately treated. A less than significant impact would occur in this regard.

Wastewater Conveyance

As part of the project, an on-site sewer system comprised of public and private sewer components would be constructed; refer to Figure 3-8. The on-site sewer system would connect to the existing 12-inch sewer stub on the south side of the OCSD manhole in Sunflower Avenue. CMSD issued a will-serve letter indicating sufficient

sewer capacity exists in the CMSD and OCSD sewer mains in Sunflower Avenue to accommodate wastewater generated by the proposed project (CMSD 2019b).

Additionally, pursuant to PPP USS-1 and PPP USS-2, the project's sewer infrastructure improvements would be designed, constructed, and operated in accordance with the CMSD Operations Code and OCSD Ordinance Nos. 40 and 48. The project would also be required to comply with PPP USS-3, which details construction requirements related to new wastewater infrastructure development in the City pursuant to Municipal Code Sections 15-6, 15-67, 13-180, and 13-71. As such, project impacts related to wastewater conveyance would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Water Supply and Distribution Systems

Impact 5.15-2: Existing water supply and delivery systems are adequate to meet project-generated water demand. [Thresholds U-1 and U-2]

Impact Analysis:

Water Demands

Construction

Short-term demand for water may occur during demolition, excavation, grading, and construction activities. Water demand for soil watering (fugitive dust control), cleanup, masonry, painting, and other activities would be temporary and would cease upon construction completion. Overall, short-term demolition and construction activities would require minimal water and are not expected to adversely impact existing MWD water supply sources.

Operation

The project site is currently developed with an industrial building. Based on MWD's meter data for fiscal year 2019, the existing industrial building had a water demand of approximately 16,024 gallons per day; refer to Table 5.15-8, *Existing Water Demands*.

Table 5.15-8 Existing Water Demands

Land Use	Site Acreage	Building Square Footage	Average Day Demand		Maximum Day Demand		Peak Hour Demand
			gpd	gpm	gpd	gpm	gpm
Industrial	16.2	345,900	16,024	11.13	24,036	16.69	25.04

Source: Michael Baker International 2019.
Notes: gpd = gallons per day; gpm = gallons per minute

As detailed in the WSA, the proposed land use changes would result in increased water demands. The proposed water demands were estimated based upon demand factors and peaking factors established in the MWD's *2014 Water Master Plan* (2014 WMP). It is assumed the demand factors listed in the 2014 WMP account for both

indoor and outdoor water consumption based on their respective land use category. However, the 2014 WMP does not specify irrigation demand factors based on land use type. Since there is a significant portion of the project site that would require irrigation (i.e., open space and landscaped areas), a separate irrigation demand factor based on industry standards in similarly developed cities was utilized by the WSA; refer to Table 5.15-9, *Project Water Demands*.

Table 5.15-9 details anticipated project water demands based on the proposed residential, commercial (including the creative office and specialty retail uses), and irrigation demands.

Table 5.15-9 Project Water Demands

Land Use	Category	Dwelling Units	Acres	Average Day Demand		Maximum Day Demand		Peak Hour Demand
				gpd	gpm	gpd	gpm	gpm
Residential	Mid/High	1,057	--	190,260	132.13	285,390	198.19	297.28
Commercial	--	--	0.71	1,779	1.24	2,669	1.85	2.78
Irrigation	--	--	2.25	5,400	3.75	13,500	9.38	25.03
			Total	**197,439**	**137.1**	**301,559**	**209.4**	**325.1**

Source: Michael Baker International 2019.
Notes: gpd = gallons per day; gpm = gallons per minute

Further, although not included in the calculations, it is acknowledged the Specific Plan includes a number of development standards related to water conservation. These include the following:

- Limiting landscape irrigation when possible and incorporating drought-tolerant plant species and non-potable water sources in the community's landscape plan;
- Promoting retention of stormwater through capture and harvesting for re-use in landscaped areas in a low-flow irrigation system;
- Installing sensor-operated faucets in public restrooms; and
- Utilizing dual flush water-conserving toilets.

The project would also be required to comply with California Energy Code and Green Building Code provisions related to water and energy conservation (see PPP USS-6).

Compared to the existing industrial building on-site, the project would increase water demand by approximately 181,416 gpd during average day demands, 277,523 gpd during maximum day demands, and 300.06 gallons per minute during peak hour demands; refer to Table 5.15-10, *Net Increase in Water Demand*.

Table 5.15-10 Net Increase in Water Demand

Condition	Average Day Demand		Maximum Day Demand		Peak Hour Demand
	gpd	gpm	gpd	gpm	gpm
Existing	16,024	11.13	24,036	16.69	25.04
Proposed	197,439	137.11	301,559	209.42	325.09
Net Increase	**181,416**	**125.98**	**277,523**	**192.72**	**300.06**

Source: Michael Baker International 2019.
Notes: gpd = gallons per day; gpm = gallons per minute

Overall, the project would result in a net average water demand increase of 181,416 gpd (or 203 acre-feet per year [AFY]). As shown in Table 5.15-2, MWD anticipates water demand in year 2040 to be approximately 20,809 AFY. Therefore, total MWD water demand would increase to 21,012 AFY (or by 0.97 percent) by 2040 under normal water year conditions.

MWD has a total groundwater well production capacity of 28,937 AFY and anticipates meeting future water demands, including the demands for the proposed project (203 AFY), from existing water supply sources. Therefore, water demands associated with the proposed project and existing and future MWD customers through year 2040 would be adequately met with MWD's existing groundwater supply. Impacts in this regard would be less than significant.

Water Conveyance

Domestic water and fire flow on-site would be provided via connections to the existing 24-inch water line in Sunflower Avenue as well as a planned on-site water loop system; refer to Figure 3-7. There is also the potential for on-site water lines to connect to an existing water line associated with the SOCO retail center near the northeast corner of the site. Any proposed public water systems within the project site would be located within an easement dedicated to MWD and would be subject to MWD's *Standard Specification and Standard Drawings for the Construction of Water Facilities* per PPP USS-4. Compliance with SCA FIRE-24 would also ensure water mains and hydrants are installed to the standards of MWD and dedicated along with repair easements to MWD. Additionally, in accordance with PPP USS-5, the project is required to be planned, designed, installed, and maintained in accordance with Municipal Code Section 13-107, *Irrigation Requirements*, and Section 13-71, *Utility Requirements*. All on-site private water systems would be owned and maintained by the property owner and/or maintenance association.

The proposed water infrastructure improvements could cause significant environmental effects associated with construction. However, the project's potential environmental impacts are evaluated throughout this Draft EIR; refer to Sections 5.1 through 5.15. Construction activities related to the project's water connection lines would be subject to compliance with all applicable local, State, and Federal laws, ordinances, and regulations, as well as the specified mitigation measures identified in this Draft EIR. As documented through the WSA, no off-site water conveyance facilities are required to support the project. Compliance with existing regulations would ensure the project's construction-related environmental impacts associated with new water facilities on-site would be reduced to less than significant levels.

Level of Significance Before Mitigation: Less Than Significant Impact.

Stormwater Infrastructure

Impact 5.15-3: Existing and proposed stormwater facilities would be able to accommodate project-generated stormwater flow. [Threshold U-1]

Impact Analysis:

The project site is currently developed with an industrial building, associated surface parking, and ornamental landscaping. Approximately 2.7 acres of the site (18 percent) is pervious, and the remaining 12.5 acres (82 percent) is impervious. The proposed project would include an internal system of storm drains in seven sub-areas that eventually discharge to the 66-inch CIPP storm drain along the western portion of the site and to the 24-inch storm drain along the eastern edge of the site; refer to Figure 3-9. Prior to discharge into the existing storm drain system, the collected stormwater would flow through 19 modular wetlands systems or an approved similar system for temporary retention and treatment prior to discharge. The Hydrology Report, prepared to evaluate existing and proposed drainage conditions on-site, is in Appendix I. The peak flow rates for the 25- and 10-year storms under existing and proposed conditions were modeled and are shown in Table 5.8-3, *Existing and Proposed Drainage Conditions*, in Section 5.8 of this Draft EIR.

As shown in Table 5.8-3, peak flow rates for the 25- and 10-year storms would be less under proposed conditions compared to existing conditions. The reduction in peak flow rates is attributed to the modeling parameters and the slightly higher area average (Ap), and the slightly higher time of concentration for the proposed condition hydrology analysis. Therefore, the proposed project would not adversely impact existing storm drains downstream, and project runoff would be adequately accommodated.

Additionally, pursuant to PPP HYD-2, the project would be required to comply with the County's MS4 Permit by controlling contaminants from construction and operational project activities and implementing BMPs and site-specific runoff controls. PPP HYD-4 requires the project's irrigation systems be designed to reduce overspray, runoff, and low-head drainage onto streets, sidewalks, windows, walls, and fences. Compliance with PPP USS-7 would ensure all proposed storm drain improvements are planned, designed, installed, and maintained in accordance with Municipal Code Section 8-35, *Permits*. Implementation of SCA WQMP-66 would also require the project to prepare and implement a SWPPP, WQMP, and associated BMPs. Further, SCAs ENG-18, -19, and -21 require the project to construct storm drain facilities pursuant to the *City of Costa Mesa Master Drainage Plan*, pay drainage ordinance fees, and maintain on-site drainage facilities.

Project compliance with PPP HYD-2, PPP HYD-4, PPP USS-7, SCA WQMP-66, and SCAs ENG-18, -19, and -21 would ensure impacts are less than significant in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Solid Waste

Impact 5.15-4: Existing solid waste facilities would be able to accommodate project-generated solid waste and the project would comply with existing solid waste regulations. [Thresholds U-4 and U-5]

Impact Analysis:

Construction

According to the air quality modeling conducted for the proposed project, demolition of the industrial building and associated surface parking lot is estimated to generate about 19,397 tons of demolition debris; refer to Appendix C, *Air Quality and Greenhouse Gas Impact Analysis*. Since at least 50 percent of demolition debris and construction waste would be recycled and/or reused in accordance with CALGreen requirements, the proposed project would generate a maximum of approximately 9,699 tons of demolition waste that would be disposed of in local landfills. Table 5.15-6 identifies the two landfills that accept the majority of the City's solid waste and also accept construction and demolition debris. The approximate 9,699 tons of demolition waste (or 147 tons per day over the proposed 66-day demolition stage) that would be disposed of in landfills would be one-time in nature and would not exceed the daily residual capacity of the landfills serving the City (6,105 tons per day). As such, project construction activities would not adversely impact existing solid waste facilities and impacts would be less than significant.

Operation

Project operation is estimated to generate approximately 3,738 net ppd of solid waste (or 1.9 tons per day), as detailed in Table 5.15-11, *Project-generated Solid Waste*. The project would nominally increase daily disposal at the two landfills by approximately 0.02 percent, reducing the daily disposal capacities of the two landfills to 6,103 tons per day. As shown in Table 5.15-6, there is adequate landfill capacity at the Frank R. Bowerman Sanitary Landfill and Prima Deshecha Landfill to accommodate project-generated solid waste during project operations. Thus, impacts would be less than significant in this regard.

Table 5.15-11 Project-generated Solid Waste

Land Uses		Proposed Buildout	Solid Waste Generation Rate (ppd)	Project-generated Solid Waste (ppd)
Proposed Project	Open Space	1.5 acres	0	0
	Multi-Family Residential	1,057 units	5.31	5,613
	Creative Office	25,000 square feet	0.006	150
	Community Room	1,500 square feet	0.006	9
	Specialty Retail	6,000 square feet	0.006	36
Total – Proposed Project				**5,808**
Existing Solid Waste Generation – Existing Industrial Building				*-2,070*
Net Solid Waste Generation				**3,738**

Source: CalRecycle 2019b.
Note: ppd = pounds per day

Compliance with Solid Waste Regulations

Project construction and operations would be required to comply with regulations governing solid waste disposal. The Specific Plan includes development standards that promote waste reduction by providing recycling receptacles in compliance with AB 341 and the use of recycled and reclaimed materials for construction of surface parking areas, sidewalks, unit paving, and curbs. Operation of the project would include recycling of green waste in accordance with AB 1826 and PPP USS-9. Furthermore, at least 50 percent of construction and demolition debris would be recycled and/or salvaged for reuse in compliance with CALGreen Section 5.408 and PPP USS-10. Pursuant to PPP USS-8, the proposed project's solid waste infrastructure would be designed, constructed, and operated in accordance with the regulations of the CMSD Operations Code. Overall, implementation of PPP USS-8 through -10 would ensure the proposed project complies with existing solid waste regulations and impacts in this regard would be less than significant.

Level of Significance Before Mitigation: Less Than Significant Impact.

Other Utilities

Impact 5.15-5: Existing electricity and natural gas service providers would be able to accommodate project-generated utility demands. [Threshold U-1]

Impact Analysis:

Electricity

Project operation is anticipated to generate a net electricity demand of approximately 2,737,863 kilowatt hours per year; refer to Table 5.4-3, *Project Electricity Consumption*, in Section 5.4, *Energy*. Total mid-electricity consumption in SCE's service area is forecast to increase by approximately 12,723 GWh between 2015 and 2027 (CEC 2016). SCE forecasts it will have sufficient electricity supplies to meet demands in its service area, and the project's electricity demand is within the forecast increase in SCE's electricity supplies. Thus, project development would not require SCE to obtain new or expanded electricity supplies, and impacts would be less than significant.

The project proposes to underground the existing 66-kilovolt SCE electric poles along the south side of Sunflower Avenue adjacent to the project's northern boundary, with the potential to underground eastward to Hyland Avenue, subject to coordination with the adjacent property owner; refer to Figure 3-10. The proposed improvement would tie into the existing transmission alignment in the current SCE easement. Physical impacts to the environment associated with this off-site improvement are addressed throughout this Draft EIR. Compliance with existing regulations and measures identified throughout this Draft EIR would ensure impacts remain less than significant. The undergrounding of the SCE utility poles would be coordinated closely between the applicant and SCE's Right of Way and Environmental Departments to ensure all California Public Utilities Commission procedures for such relocations and/or underground conversions are followed.

Natural Gas

Project operations are estimated to generate a net natural gas demand of approximately 4,385,740 kilo British Thermal Units (kBTU) per year (or approximately 0.012 MMCF/day); refer to Table 5.4-4, *Project Natural Gas Consumption*. SoCalGas' residual supplies were forecast to remain constant at 3,775 MMCF/day from 2020 through 2035. Therefore, SoCalGas forecasts it will have sufficient natural gas supplies to meet future gas demands in its service area. The project does not propose any improvements to existing SoCalGas infrastructure off-site, and the project would be adequately served by existing facilities. Impacts would be less than significant in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.15.5 Cumulative Impacts

Wastewater Treatment and Collection

Impact 5.15-6: Development of the project, in combination with related projects, would not cumulatively impact existing and proposed wastewater facilities. [Thresholds U-1 and U-3]

Impact Analysis:

Cumulative development would result in increased wastewater generation within the project vicinity, which would require wastewater conveyance by CMSD and OCSD facilities and wastewater treatment by OCSD. Cumulative development would be subject to payment of sewer connection fees and ongoing user fees, on a project-by-project basis, which would be used in part to defray the costs of any necessary wastewater infrastructure upgrades. Payment of these fees, along with compliance with Santa Ana RWQCB-issued permits, would ensure cumulative impacts to wastewater treatment facilities are less than significant. Additionally, future related projects would also be required to comply with PPP USS-1 through PPP USS-3 to ensure future sewer infrastructure improvements are designed, constructed, and operated in accordance with the CMSD Operations Code, OCSD Ordinance No. 48, and Municipal Code Sections 15-6, 15-67, 13-180, and 13-71.

As discussed, project implementation would not cause the OCSD wastewater treatment plants to exceed existing capacities. Additionally, existing CMSD and OCSD sewer mains in Sunflower Avenue would be able to accommodate project-generated wastewater. The project would also be required to pay relevant OCSD connection fees and ongoing user fees. Therefore, the project's impacts to wastewater treatment would not be significantly cumulatively considerable.

Level of Significance Before Mitigation: Less Than Significant Impact.

Water Supply and Distribution Systems

Impact 5.15-7: Existing and planned water supply and delivery systems are adequate to meet water demands of the proposed project and related projects. [Thresholds U-1 and U-2]

Impact Analysis:

Water Supply and Demand

For purposes of water supply impacts, cumulative impacts are considered for projects also located within the MWD service area. Cumulative development would generate increased demands for water services. Similar to the proposed project, cumulative development that satisfies one or more of the criteria for a "water demand project," as defined by Water Code Section 10912(a), would be required to prepare a Water Supply Assessment in conformance with SB 221 and SB 610. Future cumulative projects would be required to evaluate potential impacts on existing and planned MWD water supplies to determine whether sufficient water supply is available to serve anticipated demands in normal, single dry, and multiple dry year conditions. Thus, cumulative impacts to water supplies would be less than significant.

As discussed above, the project would result in a net average water demand increase of 181,416 gpd (or 203 AFY), which would be adequately met by MWD's existing groundwater supplies through year 2040. Thus, as the project would result in less than significant impacts in regard to water supply and demand, the project's incremental impact on MWD's water supply would not be cumulatively considerable.

Water Conveyance

Cumulative development would likely require the construction of water facilities. Cumulative projects would be evaluated on a case-by-case basis at the project level, as they are implemented, for their potential to result in construction-related impacts. All projects would be subject to the review and approval of the City and applicable water purveyors and would be subject to compliance with PPP USS-4 through USS-6. Thus, cumulative impacts to water conveyance facilities would be less than significant.

Project implementation would include new water infrastructure improvements to connect to existing MWD water lines in the project vicinity. As discussed, construction activities related to the project's water connection lines would be subject to MWD's *Standard Specification and Standard Drawings for the Construction of Water Facilities* per PPP USS-4. Compliance with SCA FIRE-24 would also ensure water mains and hydrants are installed to the standards of MWD and dedicated along with repair easements to MWD. Additionally, in accordance with PPP USS-5, the proposed utility improvements are required to be planned, designed, installed, and maintained in accordance with Municipal Code Section 13-107, *Irrigation Requirements*, and Section 13-71, *Utility Requirements*. Compliance with these existing regulations would ensure the project's incremental effects related to the construction of water facilities are not cumulatively considerable.

Level of Significance Before Mitigation: Less Than Significant Impact.

Stormwater Infrastructure

Impact 5.15-8: Development of the project, in combination with related projects, would not cumulatively impact existing and proposed storm drain facilities. [Threshold U-1]

Impact Analysis:

The cumulative projects identified in Table 4-2, *Related Projects*, in addition to the project, could result in the construction of new stormwater drainage facilities or the expansion of existing facilities. Similar to the proposed project, all cumulative development would be subject to the County's MS4 Permit pursuant to PPP HYD-2, and on-site irrigation systems would be designed to reduce runoff onto streets, sidewalks, windows, walls, and fences pursuant to PPP HYD-4. Further, PPP USS-7 would ensure storm drain improvements associated with cumulative projects are designed, installed, and maintained in accordance with Municipal Code Section 8-35, *Permits*. Preparation of project-specific Water Quality Management Plans and Storm Water Pollution Prevention Plans would also be required pursuant to SCA WQMP-66. Further, SCAs ENG-18, -19, and -21 would require future cumulative projects construct storm drain facilities pursuant to the *City of Costa Mesa Master Drainage Plan*, pay drainage ordinance fees, and maintain on-site drainage facilities. Following conformance with existing regulations in place for stormwater drainage facilities, cumulative impacts to stormwater drainage facilities would be less than significant.

As discussed, the project would involve the construction of on-site stormwater drainage facilities and biotreatment units that would reduce stormwater flow for the 25- and 10-year storms compared to existing conditions. The project would also comply with all existing regulations related to drainage and flood control. As a result, project implementation is not anticipated to require the relocation or construction of new or expanded stormwater treatment facilities. Following implementation of all applicable City, County, and Santa Ana RWQCB NPDES requirements, the project's impacts to stormwater drainage facilities would not be cumulatively considerable.

Level of Significance Before Mitigation: Less Than Significant Impact.

Solid Waste

Impact 5.15-9: The proposed project, in combination with related projects, would not adversely impact the capacity of existing solid waste facilities and would comply with existing solid waste regulations. [Thresholds U-4 and U-5]

Impact Analysis:

Cumulative development within the project area would increase demands for solid waste disposal services. Related projects would be subject to conformance with relevant laws, ordinances, and regulations in place for solid waste disposal. This includes implementation of PPP USS-8 through -9, which include compliance with AB 341 and 1826 as well as CALGreen Section 5.408. Further, the landfills identified in Table 5.15-6 have a total of 6,105 tons of residual daily disposal capacity. Thus, following conformance with existing regulations in place for solid waste disposal, cumulative impacts to solid waste would be less than significant.

As discussed above, project-generated solid waste would be adequately accommodated at the Frank R. Bowerman Sanitary Landfill and Prima Deshecha Landfill and would be required to comply with PPP USS-8 through -9. Further, solid waste generated by project operations would represent 0.03 percent of the residual daily disposal capacity of the two landfills. Therefore, project impacts would not be significantly cumulatively considerable in this regard.

Level of Significance Before Mitigation: Less Than Significant Impact.

Other Utilities

Impact 5.15-10: Development of the project, in combination with related projects, would not cumulatively impact existing electricity and natural gas service providers. [Threshold U-1]

Impact Analysis:

The cumulative projects identified in Table 4-2, in addition to the project, could result in the construction of new dry utilities or the expansion of existing dry utilities. Cumulative development would be evaluated on a case-by-case basis at the project level, as they are implemented, for their potential to result in environmental impacts. All projects would be subject to the review and approval of the City and applicable dry utility providers and would be subject to compliance with the relevant laws, ordinances, and regulations in place. Thus, cumulative impacts concerning the construction of dry utilities would be less than significant.

As discussed, project implementation would not result in increased demands that require or result in the relocation or construction of new or expanded dry utilities, the construction or relocation of which could cause significant environmental effects. The Specific Plan includes several development standards and guidelines related to sustainability and energy conservation that would further reduce the project's demands on existing SCE and SoCalGas supplies and infrastructure. Thus, project impacts to dry utilities would not be cumulatively considerable.

Level of Significance Before Mitigation: Less Than Significant Impact.

5.15.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impacts would be less than significant: Impacts 5.15-1 through 5.15-10.

5.15.7 Mitigation Measures

No mitigation measures are required.

5.15.8 Level of Significance After Mitigation

Impacts would be less than significant.

Chapter 6.0 Significant and Unavoidable Adverse Impacts

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6. Significant Unavoidable Adverse Impacts

Table 1-1, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation*, summarizes the project impacts, mitigation measures, and levels of significance before and after mitigation. Mitigation measures would reduce the level of impact, but the following impacts would remain significant and unavoidable after mitigation measures are applied:

Air Quality

- **Impact 5.2-1:** Construction activities associated with the proposed project would generate short-term emissions in exceedance of the South Coast Air Quality Management District's (SCAQMD) threshold criteria and would cumulatively contribute to the nonattainment designations in the South Coast Air Basin (Basin). Mitigation Measure AIR-1 would require the construction contractor to utilize newer, Tier 3, construction equipment fitted with Level 2 diesel particulate filters (DPF), which would reduce nitrous oxide (NO_X) and particulate matter (PM) emissions. Mitigation Measure AIR-2 requires the use of low volatile organic compound (VOC) paints, which would reduce VOC emissions. As shown in Table 5.2-15, *Short Term Regional Peak Day Construction Emissions with Mitigation*, of Section 5.2, *Air Quality*, NO_X emissions would be reduced below the SCAQMD thresholds with implementation of Mitigation Measure AIR-1. However, even with implementation of Mitigation Measure AIR-2, VOC emissions would still exceed the applicable SCAQMD threshold. No other feasible mitigation exists to reduce VOC impacts from architectural coating. Thus, VOC emissions associated with project construction would result in a **significant and unavoidable** impact.

- **Impact 5.2-7:** Cumulative construction activities associated with the proposed project would generate short-term emissions in exceedance of SCAQMD's threshold criteria and would cumulatively contribute to the Basins' nonattainment designations. As stated, Table 5.2-15 illustrates that the project's NO_X emissions would be reduced to below SCAQMD thresholds with implementation of Mitigation Measure AIR-1. However, even with implementation of Mitigation Measures AIR-2, the project's VOC emissions would exceed the established SCAQMD thresholds. Thus, the proposed project would result in a **significant and unavoidable** cumulative impact for VOC emissions.

Greenhouse Gas Emissions

- **Impact 5.6-1:** Implementation of the proposed project would generate a net increase in GHG emissions that would have a significant impact on the environment. Mitigation Measures GHG-1 and GHG-2 would ensure the applicant designs the proposed parking areas to provide preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles. At a minimum, the number of electric vehicle charging stations is required to be equal to Tier 2 Nonresidential Voluntary Measures of the California Green Building Standards Code Section A5.106.5.1.2. As shown in Table 5.6-5, *Long-term Operational Greenhouse Gas Emission*

6. Significant Unavoidable Adverse Impacts

With Mitigation, of Section 5.6, *Greenhouse Gas Emissions*, implementation of Mitigation Measures GHG-1 and GHG-2 would reduce GHG emissions; however, project emissions would continue to exceed the SCAQMD significance threshold of 3,000 metric tons of carbon dioxide equivalent per year. Therefore, project-level GHG emissions impacts would be **significant and unavoidable**.

- **Impact 5.6-3:** Project implementation would generate a net increase in GHG emissions that would result in a cumulatively significant impact. As analyzed above, operational GHG emissions associated with the proposed project would continue to exceed the SCAQMD significance threshold with implementation of Mitigation Measures GHG-1 and GHG-2. Therefore, the project's cumulative contribution of GHG emissions would be **significant and unavoidable**.

Transportation

- **Impact 5.13-1:** Development of the proposed project would result in a potentially significant impacts at the following study intersections under existing plus project, future short-term cumulative (2027) plus project, and/or General Plan buildout (2040) plus project scenarios:

    - Study Intersection No. 18 (Susan Street/South Coast Drive). As shown in Table 5.13-15, a significant impact would occur at the Susan Street/South Coast Drive intersection under General Plan Buildout (2040) Plus Project scenario. The project would be responsible for contributing towards its fair share for implementation of the proposed improvements (Mitigation Measure T-1). Mitigation Measure T-1 would require the project applicant to contribute its fair share contribution to the City of Costa Mesa Transportation Division for the implementation of adding a southbound right-turn lane by restriping Susan Street at the intersection Susan Street/South Coast Drive (Study Intersection No. 18). As shown in Table 5.13-16, *Study Intersection No. 18 Level of Service with Recommended Improvements*, with incorporation of Mitigation Measure T-1, traffic impacts would be reduced to less than significant levels for the General Plan Buildout (2040) Plus Project scenario. However, although fair share funds to this improvement would be made, there is no guarantee that the full improvement funds would be secured nor that these improvements would be constructed. Thus, impacts would remain **significant and unavoidable** for the General Plan Buildout (2040) Plus Project scenario at Susan Street/South Coast Drive (Study Intersection No. 18).

    - Study Intersection No. 28 (Talbert Avenue/Mt. Washington Street). As shown in Table 5.13-15, a significant impact would occur at the Talbert Avenue/Mt. Washington Street intersection under all scenarios. The Talbert Avenue/Mt. Washington Street intersection is located in the City of Fountain Valley. The project would be responsible for contributing towards its fair share for implementation of the proposed improvements (Mitigation Measure T-2). Mitigation Measure T-2 would require the project applicant to contribute its fair share contribution to the City of Fountain Valley Transportation Division for improvements to the intersection of Talbert Avenue/Mt. Washington Street (Study Intersection No. 28), including adding a traffic signal, restriping the northbound approach to a shared left through lane and a dedicated right turn lane, converting the southbound right turn lane to a dedicated channelized free right turn lane, and

adding overlap phasing for a northbound right turn movement. As shown in Table 5.13-17, *Study Intersection No. 28 Level of Service with Recommended Improvements*, with incorporation of Mitigation Measure T-2, traffic impacts would be reduced to a less than significant level. While improvements are identified for this intersection, impacts would remain significant and unavoidable, since the intersection is not located within the City of Costa Mesa and there is no guarantee that the improvements identified would be implemented. As such, although impacts to this intersection could be reduced to less than significant with recommended improvements, impacts would remain **significant and unavoidable**.

Development of the proposed project would also result in a potentially significant impacts at the following freeway segments and ramps under existing plus project, future short-term cumulative (2027) plus project, and/or General Plan buildout (2040) plus project scenarios:

Northbound I-405

1. South of Fairview Road On-Ramp;
2. Fairview Road On-Ramp;
3. Fairview Road On-Ramp and Harbor Boulevard On-Ramp;
4. Harbor Boulevard On-Ramp;
5. Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp; and
6. Hyland Avenue On-Ramp.

Southbound I-405

7. Harbor Boulevard Off-Ramp;
8. Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp;
9. Harbor Boulevard Loop On-Ramp;
10. Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp;
11. Harbor Boulevard Slip-On Ramp; and
12. Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp.

The proposed project would contribute to the identified segments and ramps' deficient status. Therefore, there are project-level and cumulative impacts to the freeway system near the project site. To mitigate the impacts at the identified locations, freeway main-line and/or freeway ramp widening would be required. However, this type of infrastructure is extremely costly and is typically infeasible for one development project to undertake. The City cannot assure the construction of improvements to freeway facilities that may be needed to improve traffic flow.

Improvements to State highway facilities are planned, funded, and constructed by the State of California through a legislative and political process involving the State legislature; the California Transportation Commission (CTC); the California Business, Transportation, and Housing Agency; California Department of Transportation (Caltrans); and the Regional Transportation Planning Agency (RTPA). Although potential impacts to the freeway mainline segments and ramps have been evaluated, implementation of the

transportation improvements to Caltrans facilities listed above is the primary responsibility of Caltrans. Caltrans has recognized that private development has a role to play in funding fair share improvements to impacts on these facilities, but neither Caltrans nor the State has adopted a program that can ensure that locally contributed impact fees would be tied to improvements to freeway mainlines. Only Caltrans has jurisdiction over mainline improvements. State and Federal fuel taxes generate most of the funds used to pay for improvements. Funds expected to be available for transportation improvements are identified through a fund estimate prepared by Caltrans and adopted by the CTC. These funds, along with other fund sources, are deposited in the State highway account to be programmed and allocated to specific project improvements by the CTC. Since there is no guarantee that these programs would be implemented by the agencies with the responsibility to do so, the project's identified impacts to the freeway system are considered **significant and unavoidable**.

Last, VMT per employee for the office portion of the project would be three percent higher than the regional estimate. Thus, although the City has not formally adopted VMT thresholds of significance, the office component of the project would result in significant VMT impacts. It should be noted, that the project is a mixed-use development that would add housing to an area within walking and biking distance to existing employment, retail, restaurant, and entertainment opportunities that could potentially further reduce VMT for the entire project. In fact, the mixed-use nature of the project along with the pedestrian and bikeway improvements are all intended to reduce the project's overall VMT. In addition, the proposed Specific Plan and proposed project features encourage/implement VMT reduction strategies. These strategies include pedestrian network improvements, traffic calming measures (to encourage biking/walking), car-sharing programs, encouraging telecommuting and alternative work schedule, as well as encourage the use of ride-share programs. However, it is not reasonable or feasible to require these measures and/or quantify the number of reduced VMT. Thus, although these VMT reduction strategies reduce VMT impacts from the proposed creative office use, the project impacts would remain **significant and unavoidable** with respect to the office component and, thereby, the project as a whole.

- **Impact 5.13-4:** Implementation of the proposed project and related projects could cumulatively result in potentially significant impacts at study intersections and freeway segments and ramps under existing plus project, future short-term cumulative (2027) plus project, and/or General Plan buildout (2040) plus project scenarios. Refer to the discussion above regarding Impact 5.13-1. Despite implementation of Mitigation Measures T-1 and T-2, project impacts to the identified intersections and freeway ramps would be significant and unavoidable under the future short-term cumulative (2027) plus project and General Plan buildout (2040) plus project conditions. Cumulative impacts in this regard would be **significant and unavoidable**.

Chapter 7.0 Alternatives to the Proposed Project

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7. Alternatives to the Proposed Project

7.1 INTRODUCTION

7.1.1 Purpose and Scope

CEQA requires that an environmental impact report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines Section 15126.6[a]). As required by CEQA, this chapter identifies and evaluates potential alternatives to the proposed project.

Section 15126.6 of the CEQA Guidelines explains the foundation and legal requirements for the alternatives analysis in an EIR. Key provisions are:

- "[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." (15126.6[b])
- "The specific alternative of 'no project' shall also be evaluated along with its impact." (15126.6[e][1])
- "The no project analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation 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 project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." (15126.6[e][2])
- "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 project." (15126.6[f])
- "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries…, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)" (15126.6[f][1]).
- "Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." (15126.6[f][2][A])
- "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative." (15126.6[f][3])

7. Alternatives to the Proposed Project

For each development alternative, the analysis herein:

- Describes the alternative;
- Analyzes the impact of the alternative as compared to the proposed project;
- Identifies the impacts of the project that would be avoided or lessened by the alternative;
- Assesses whether the alternative would meet most of the basic project objectives; and
- Evaluates the comparative merits of the alternative and the project.

According to Section 15126.6(d) of the CEQA Guidelines, "[i]f an alternative would cause…significant effects in addition those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed."

7.1.2 Project Objectives

As described in Section 3.3, *Statement of Project Objectives*, the following objectives have been established for the proposed project and aid decision makers in their review of the project, the project alternatives, and associated environmental impacts.

1. Redevelop the project site with a mix of residential units and office and retail uses in a master planned setting and in a manner that is fiscally neutral or positive for the City.
2. Increase the City's housing stock including affordable housing opportunities by providing multi-family residential housing in areas with adequate public utilities and services and in close proximity to major employment centers.
3. Provide enhanced recreation and open space opportunities and opportunities for specialty retail and entertainment uses to serve future residents and commercial office tenants.
4. Encourage alternative modes of travel through enhancing pedestrian and bicycle infrastructure and by bringing residents in closer proximity to existing and proposed resident-serving retail and adjacent employment centers.
5. Improve jobs-housing ratio and reduce vehicle miles traveled by placing housing in proximity to a major employment center in support of Statewide housing and transportation regulations (Senate Bill 375 and Senate Bill 743).
6. Incorporate sustainable development practices that address energy efficiency, support active transportation, and comply with green building code standards.
7. Enhance the visual attributes of the project site and surrounding area through implementation of a high quality design, creative facades, consistent development standards, and design guidelines for streetscape, landscape, site design, and signage.

7.2 ALTERNATIVES CONSIDERED BUT REJECTED DURING THE SCOPING/PROJECT PLANNING PROCESS

The following is a discussion of the land use alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this EIR.

7.2.1 Alternative Project Site Alternative

CEQA requires a discussion of alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project. The key question and first step in the analysis is evaluating whether any of the significant effects of the project would be avoided or substantially lessened by developing the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (CEQA Guidelines Section 15126[5][B][1]). In general, any development or redevelopment of the size and type proposed by the project would have similar significant and unavoidable impacts on air quality, greenhouse gas emissions, and transportation. Further, project impacts related to energy, population and housing, and public services would be similar regardless of where it is developed within Costa Mesa. Without a site-specific analysis, impacts on aesthetics, cultural resources, geology and soils, hazards and hazardous materials, hydrology/water quality, land use and planning, and noise cannot be evaluated. The project site is already developed; redevelopment on the project site would result in fewer impacts than development on an alternate undeveloped vacant property. Furthermore, the site contains adequate infrastructure for future development to connect.

Furthermore, the project applicant does not own or control other comparably sized and located property in the City of Costa Mesa. While the project requires approval of several land use entitlements, including a General Plan Amendment, objectives for the project include providing housing and mixed uses in proximity to major employment centers. The current zoning in the project area does not allow for residential units and there are no similarly sized infill parcels designated for residential or mixed use near the area that meet this requirement. Due to the lack of viable and comparable sites in the general area that would allow for development of the project in a manner that would avoid or substantially lessen the project's potentially significant impacts, development of the project on an alternative site has been eliminated from consideration.

7.2.2 No Project/Existing Zoning Alternative

The project site is zoned Industrial Park (MP), which is intended for large, concentrated industrial areas where the aim of development is to create a spacious environment in a park-like setting. The zoning allows for industrial, offices, churches, mortuaries, racquetball and tennis facilities, food and beverage, health clubs, schools, and academies. The City's Industrial Development Standards allow for a maximum three-story (45-foot) building within this zone; refer to Municipal Code Table 13-53. The site is currently developed and occupied with an approximate 345,000-square foot one-story industrial building, associated parking lot, and ornamental landscaping. The industrial building is occupied by Sakura Paper Factory, Robinson Pharma, South Coast Baking, and Dekra-Lite Industries, Inc. Landscaping is provided along the site boundary and within the surface parking lot. The industrial building is currently in operation and represents the baseline scenario for purposes of this EIR. As required under CEQA Guidelines Section 15126.6(e), the EIR must analyze a "no

project" alternative. An analysis of a No Project/No Development Alternative is provided below, which assumes that the existing land uses would continue to operate and the proposed project would not be developed. Under a No Project/Existing Zoning Alternative, the analysis would assume the continuation of the existing MP zoning which could include redevelopment of the site for another industrial or office use up to three stories in height. However, an analysis of a No Project/Existing Zoning Alternative would not be substantially different from the No Project/No Development Alternative. The existing industrial building has a floor area ratio of 0.50, which exceeds the maximum development potential for the MP zoned property. Therefore, a No Project/Existing Zoning Alternative would not provide useful information for the public or decision-makers and only the No Project/No Development Alternative is analyzed in further detail below.

7.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Based on the criteria listed above, the following two alternatives have been determined to represent a reasonable range of alternatives which have the potential to feasibly attain most of the basic objectives of the project, but which may avoid or substantially lessen any of the significant and unavoidable effects of the project. These alternatives are analyzed in detail in the following sections:

- No Project/No Development Alternative
- Reduced Development Intensity Alternative

An EIR must identify an "environmentally superior" alternative and where the No Project Alternative is identified as environmentally superior, the EIR is then required to identify as environmentally superior alternative from among the others evaluated. Each alternative's environmental impacts are compared to the proposed project and determined to be environmentally superior, neutral, or inferior. Section 7.6, *Environmentally Superior Alternative*, identifies the Environmentally Superior Alternative.

7.4 NO PROJECT/NO DEVELOPMENT ALTERNATIVE

The No Project/No Development Alternative is required to discuss the existing conditions at the time the Notice of Preparation is published (May 2019) (CEQA Guidelines Section 15126.6[e]). Therefore, the No Project/No Development Alternative assumes the proposed Specific Plan would not be approved and no new development would occur on-site. The existing one-story 345,000-square foot industrial building would continue to operate similar to existing conditions.

7.4.1 Aesthetics

Under the No Project/No Development Alternative, the mixed-use residential and creative office buildings, open space, and associated amenities (e.g., landscaping; public art; Sunflower Avenue improvements; and pedestrian, bicycle, and trail improvements) would not be developed. The project's building massing and associated shading impacts would not occur. The existing industrial building, surface parking lot, and landscaping would remain, and the site's existing visual character and lighting would not change. No construction activities would occur on-site. Compared to the proposed mixed-use development, this alternative would not strengthen the image of the City from sidewalks and roadways (General Plan Goal CD-1) or

contribute to the City's beautification by enhancing vehicular and pedestrian paths and corridors (General Plan Objective CD-1A) as the Sunflower Avenue improvements and pedestrian, bicycle, and trail connections would not be implemented. This alternative also would not underground electrical facilities per General Plan Policy CD-1.5 or reinforce a sense of arrival into the City by promoting architecturally significant development and significant landscape plantings at key nodes (General Plan Policy CD-3.2). Preserving the existing industrial building also would not enhance opportunities for new development and redevelopment to contribute to a positive visual image for the City (General Plan Policy CD-6) or encourage the inclusion of public art and attractive functional architecture (General Plan Policy CD-6.1). Thus, while this alternative would preserve the site's existing visual character and eliminate the project's less than significant building massing and shading impacts, it would not enhance the scenic quality of the project area like the proposed project. As such, this alternative would neither be environmentally superior nor inferior to the proposed project.

7.4.2 Air Quality

Under the No Project/No Development Alternative, no construction or demolition activities would occur. Therefore, the project's significant and unavoidable construction-related air quality impacts from volatile organic compound (VOC) emissions generated by architectural coating would be eliminated under this alternative and associated mitigation would not be required. Additionally, this alternative would not require mitigation to reduce the project's impacts regarding nitrous oxide and particulate matter emissions to less than significant levels. Last, the project's less than significant impacts pertaining to operational emissions, criteria air pollutants to sensitive receptors, and objectionable odors would not occur. This alternative would be environmentally superior to the proposed project.

7.4.3 Cultural Resources

Under the No Project/No Development Alternative, no construction activities would occur. Thus, this alternative would not have the potential to encounter historic or archaeological resources on-site and would not require mitigation. No impacts would occur in this regard and this alternative would be environmentally superior to the proposed project.

7.4.4 Energy

As detailed in Table 5.4-3, *Project Electricity Consumption*, and Table 5.4-4, *Project Natural Gas Consumption*, the proposed project would result in a net increase of approximately 2,737,863 kilowatt-hours per year of electricity demand and 4,685,740 kilo British thermal units per year of natural gas demand compared to existing conditions. Under this alternative, demolition of the existing industrial building and construction and operations of new buildings would not occur. Therefore, energy demands for electricity, natural gas, and fuel consumption would remain as is. Thus, the project's less than significant impacts on energy would be further reduced under this alternative. This alternative would be environmentally superior to the proposed project.

7.4.5 Geology and Soils

No construction activities, including demolition or grading, would occur under the No Project/No Development Alternative. Therefore, there would be no increase in the potential for new workers, buildings, or structures to experience seismic ground shaking or other geologic hazard. Although seismic risks to the older existing industrial building would not meet the latest 2019 California Building Code requirements related to seismic hazards, it also would not involve any major grading or excavation that could exacerbate existing subsurface geologic conditions or erosion impacts. Additionally, no impacts to potentially undiscovered paleontological resources on-site would occur and thus, no mitigation is required. Therefore, this alternative would be environmentally superior to the proposed project.

7.4.6 Greenhouse Gas Emissions

The No Project/No Development Alternative assumes that no new on- or off-site improvements would occur. As detailed in Table 5.6-2, *Existing Greenhouse Gas Emissions*, the existing industrial building generates approximately 2,705 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/yr). In comparison, the proposed project would generate 11,876 $MTCO_2e$/yr, a net increase of approximately 9,171 $MTCO_2e$/yr. Therefore, this alternative would generate fewer emissions than the proposed project and would be below the South Coast Air Quality Management District (SCAQMD) significance threshold of 3,000 $MTCO_2e$/yr, and would eliminate the proposed project's significant and unavoidable impacts related to greenhouse gas emissions. A less than significant impact would occur in this regard. As this alternative avoids the project's significant and unavoidable greenhouse gas emissions impacts, this alternative would be environmentally superior.

7.4.7 Hazards and Hazardous Materials

Under this alternative, no new development would occur and the existing industrial building would remain operational. Therefore, existing warehousing/manufacturing operations would continue. The existing on-site building would not be demolished and the potential for release of asbestos-containing materials and lead-based paint from the building would not occur. Further, no excavation involving the disturbance of potential contaminated soils would result. Furthermore, as no construction activities would occur on Sunflower Avenue, no impacts to emergency access or evacuation routes would occur and no mitigation would be required in this regard. However, without project implementation, the existing on-site hazards (e.g., asbestos-containing building materials, lead based paint, polychlorinated biphenyls, and potential contaminated soils, if present) would not be removed and disposed of properly. Therefore, this alternative would be neither environmentally superior nor inferior to the proposed project.

7.4.8 Hydrology and Water Quality

Existing water quality conditions, groundwater supplies, drainage patterns, and runoff amounts would remain as is under this alternative, since no new development would occur. This alternative would not introduce new sources of water pollutants to the project area from either construction or operational activities. However, this alternative would not include the proposed project's low impact development, source control, site design, and treatment control best management practices (BMPs) to minimize runoff and water pollution. These BMPs

are required under the proposed project and have a beneficial impact on stormwater quality by treating stormwater pollutants prior to release into the storm drain system. Additionally, as detailed in Table 5.8-3, *Existing and Proposed Drainage Conditions*, peak drainage under the 25- and 10-year storms would be greater under existing conditions than post-development conditions. Therefore, hydrology and water quality impacts would be slightly greater under this alternative. This alternative is environmentally inferior to the proposed project.

7.4.9 Land Use and Planning

Given that the proposed project would not be developed, this alternative would not require a General Plan Amendment, Zone Change, Specific Plan, Master Plan, Development Agreement, Tentative Tract Map, Tree Removal Permit, and Public Art Plan. The existing land use designation and zoning for the project site would remain Industrial Park and Industrial Park (MP), respectively. However, this alternative would not allow new development to redevelop and enhance the site, establish a sense of place, provide community amenities, or place housing within close proximity to a major employment center. New development standards and design guidelines to enhance the character, mobility, and connectivity of the project site also would not be implemented. The proposed project also meets several General Plan policies more so than the existing industrial development. For example, the project provides for the development of a mix and balance of housing opportunities, commercial services, and employment opportunities (General Plan Policy LU-1.1); develops compatible residential, commercial, and public uses within a single project (General Plan Policy LU-3.5); encourages a broad range of business uses that provide employment at all income levels (General Plan Policy LU-6.10); and develops residential, office, and retail uses that would serve local residents and also benefit from the high visibility along I-405 Freeway (General Plan Policy LU-6.19). Overall, the No Project/No Development Alternative would be environmentally inferior to the project regarding land use and planning.

7.4.10 Noise

Existing on-site noise associated with trucks, loading docks, and back up beepers would continue under this alternative. As no new construction or operational activities would occur, no new construction or operational noise would be generated on-site, compared to existing conditions. The potential to impact nearby sensitive receptors from construction noise and vibration and operational noise (both mobile and stationary sources) would be reduced compared to the proposed project. Therefore, no impacts would occur under this alternative and this alternative would be environmentally superior to the proposed project.

7.4.11 Population and Housing

Population and employment growth would not occur under the No Project/No Development Alternative, since no new residential units, businesses, or other infrastructure would be constructed. Existing tenants and associated employees would remain, resulting in no impacts to population and housing. The proposed project's anticipated population and housing growth would result in unplanned population growth. However, the project would also introduce substantial housing near employment opportunities in Costa Mesa, including a minimum of 105 units as affordable housing to assist the City in meeting its Regional Housing Needs Assessment (RHNA) requirements. As this alternative would not provide affordable housing, improve jobs/housing ratio,

or assist the City in meeting its State mandated housing goals, it would be neither environmentally superior nor inferior to the proposed project.

7.4.12 Public Services and Recreation

The proposed multi-family units, creative office space, specialty retail use, and open space would not be developed under this alternative. Therefore, potential increases in demand for public services, such as fire and police services would not occur. The project's potentially significant impact to fire services and required Mitigation Measures PS-1 and PS-2 would not be required. Additionally, as no residents currently live on-site, there would be no demand for school, library, or recreational services. It is acknowledged that this alternative would not implement the proposed Sunflower Avenue improvements, trail enhancements and connections, or the 1.5-acre open space. Nevertheless, as no substantial increase in demand for public services or recreation would occur, this alternative would be environmentally superior to the proposed project.

7.4.13 Transportation

Under the No Project/No Development Alternative, no new buildings, residents, or employees would be introduced to the project site. Existing average daily trips (ADT) would remain similar to current conditions (429 ADT with 37 a.m. peak hour trips and 8 p.m. peak hour trips) and study area roadway segments and intersections would maintain existing levels of service (LOS). This alternative would not generate construction-related vehicular trips or the approximately 6,800 net ADT associated with project operations.

It should be noted that the following intersections are currently operating at an unsatisfactory LOS:

- I-405 Freeway Southbound Ramps/Ellis Avenue Street (p.m. peak hour only); and
- Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours based on the City of Fountain Valley LOS standards).

It should be noted that the intersection of I-405 Freeway Southbound Ramps/Ellis Avenue - Euclid Street would be reconfigured as part of the I-405 Freeway Improvement Project. Therefore, this intersection would operate at an acceptable LOS under all future scenarios with implementation of the reconfigured geometry.

Additionally, the following peak hour ramp merge/diverge and freeway segment levels of service are currently operating at a deficient LOS:

Northbound I-405 Freeway

- Hyland Avenue On-Ramp (p.m. peak hour only).

Southbound I-405 Freeway

- Harbor Boulevard Off-Ramp (a.m. peak hour only);
- Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
- Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
- Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);

- Harbor Boulevard Slip-On Ramp (a.m. peak hour only); and
- Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (a.m. peak hour only).

Therefore, while the proposed project would result in significant and unavoidable impacts to several study area intersections and freeway segments, the same intersections and freeway segments already operate at a deficient LOS under existing conditions. Additionally, this alternative would not result in the implementation of Mitigation Measures T-1 or T-2, which require the project applicant to contribute its fair share for the cost to improve the intersection of Susan Street/South Coast Drive (new southbound right-turn lane) and intersection of Talbert Avenue/Mt. Washington Street (a traffic signal, restriping the northbound approach to a shared left through lane and a dedicated right turn lane, converting the southbound right turn lane to a dedicated channelized free right turn lane, and adding overlap phasing for a northbound right turn movement). No vehicle miles traveled (VMT) would be added to the transportation system, avoiding the projects significant and unavoidable VMT impact. This alternative also would not implement the active transportation hub, bicycle and pedestrian improvements along Sunflower Avenue, trail connection improvements to the Santa Ana River Trail, or open space.

Therefore, as this alternative would not result in new vehicular trips or VMT and would not require any temporary lane closures for construction activities, this alternative would be environmentally superior to the proposed project. However, it is acknowledged that the above intersections would continue to operate at deficient LOS and would continue to do so in the future.

7.4.14 Tribal Cultural Resources

Under this alternative, no ground disturbances would occur. Therefore, the potential to adversely impact previously undiscovered tribal cultural resources on-site would not occur. No impacts would result in this regard and this alternative would be environmentally superior to the proposed project.

7.4.15 Utilities and Service Systems

The project site is currently served by existing utilities and service systems, which would continue to operate similar to existing conditions. Due to the project's anticipated increase in wastewater generation, water demand, stormwater infrastructure demand, solid waste generation, and electricity and natural gas demand, the project proposes several utility improvements and upgrades, including upgrading and extending water, wastewater and storm drain pipelines and fixtures to tie into off-site connections. The project also proposes to underground existing electrical powerlines along the project frontage and implement stormwater BMPs. As no new development would occur under this alternative, the project's increase in wastewater generation, water demand, stormwater infrastructure demand, solid waste generation and electricity and natural gas demand would be avoided. This alternative would be environmentally superior to the proposed project in this regard.

7.4.16 Conclusion

Ability to Reduce Environmental Impacts

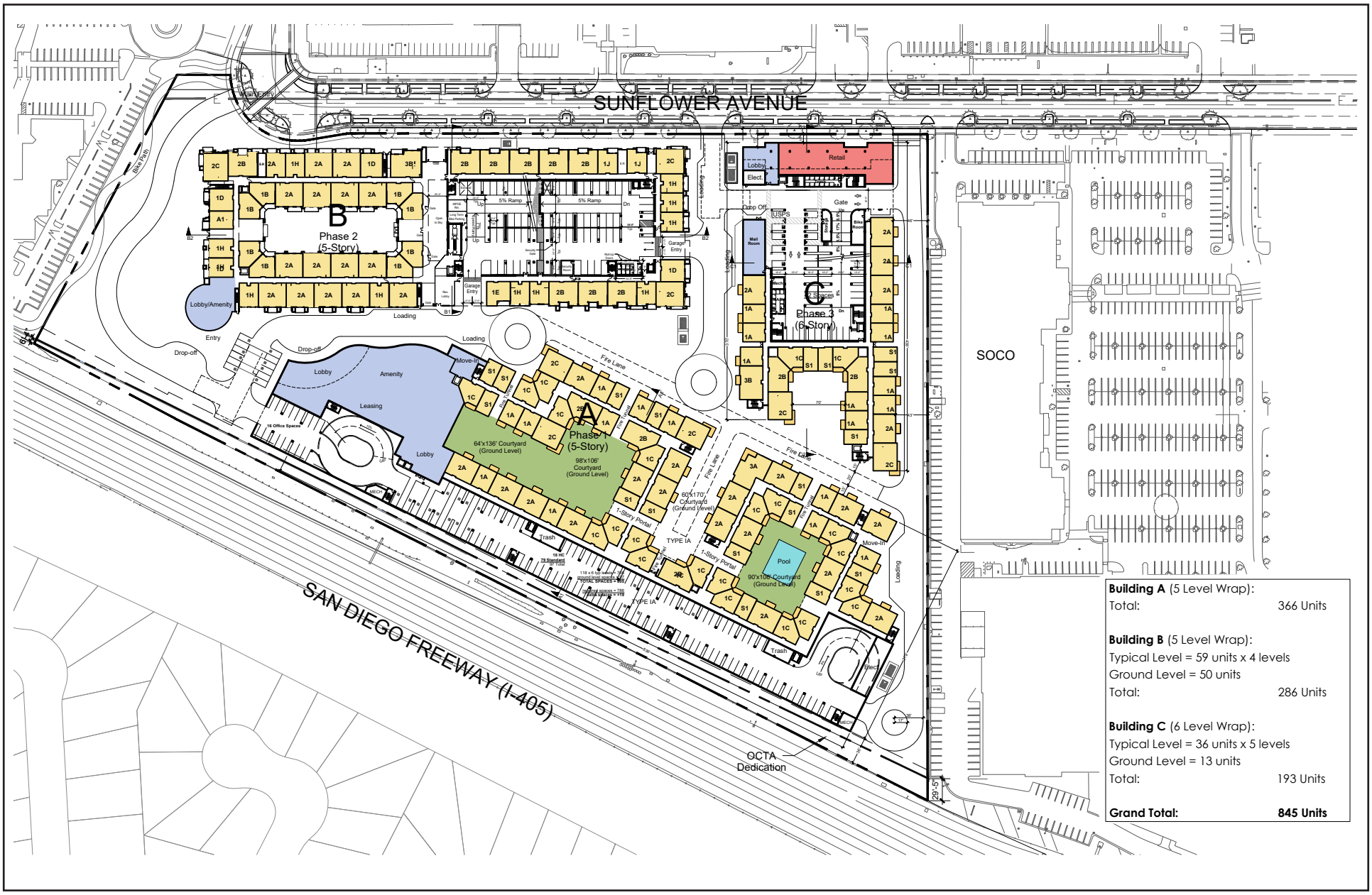
The No Project/No Development Alternative would eliminate the proposed project's significant and unavoidable impacts related to air quality (construction), greenhouse gas emissions, and transportation. This alternative would also lessen environmental impacts in the areas of cultural resources, energy, geology and soils, noise, public services and recreation, tribal cultural resources, and utilities and services systems. Weighing the tradeoffs between the proposed project and the No Project/No Development Alternative in regard to aesthetics, hazards and hazardous materials, and population and housing, this alternative would result in similar impacts. Impacts related to hydrology and water quality and land use and planning would be greater.

Ability to Achieve Project Objectives

No development would occur on-site under the No Project/No Development Alternative. The existing industrial uses would continue to operate on-site and none of the project objectives would be achieved under this alternative. Specifically, this alternative would not redevelop the site with a mix of residential, office, and retail uses (Objective No. 1); increase the City's housing stock, including affordable housing (Objective No. 2); provide enhanced recreation and open space opportunities (Objective No. 3); enhance pedestrian and bicycle infrastructure in the project vicinity (Objective No. 4); improve jobs-housing ratio and reduce vehicle miles traveled (Objective No. 5); implement sustainable development practices (Objective No. 6); or enhance the visual attributes of the project site and surrounding area (Objective No. 7).

7.5 REDUCED DEVELOPMENT INTENSITY ALTERNATIVE

The Reduced Development Intensity Alternative was selected to avoid or substantially lessen the proposed project's significant unavoidable impacts related to air quality (construction), greenhouse gas emissions, and transportation. This alternative assumes a 20 percent reduction in residential units and elimination of the 25,000-square foot creative office building and 1.5-acre open space. Similar to the proposed project, and as shown on Figure 7-1, *Reduced Development Intensity Alternative*, the 845 residential units would be constructed in three multi-story buildings, however, Building B would be slightly relocated to the west where the 1.5-acre open space was previously proposed and one level of Building A would be eliminated, reducing its height to five stories. This alternative would still provide affordable units, but the number of units would be proportionally lower than the proposed project. Given the reduction in residential units, parking on-site would also be reduced by a proportional amount while still meeting the Specific Plan parking requirements.



Source: Rose Equities, 2020.

NOT TO SCALE

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01/20 JN 172326

ONE METRO WEST
ENVIRONMENTAL IMPACT REPORT

Reduced Development Intensity Alternative

Figure 7-1

7. Alternatives to the Proposed Project

Under this alternative, the project would not be able to finance all proposed amenities and thus, would eliminate the 1,500-square foot community room, bicycle lockers, bicycle storage, bicycle repair facilities, active transportation hub, Sunflower Avenue pedestrian and bicycle facility improvements, and trail improvements along the western portion of the site towards the Santa Ana River Trail.

Overall, the reduction in residential and non-residential development (212 fewer residential units, 25,000 fewer square feet of creative office space, and elimination of the 1.5-acre open space) would reduce associated vehicle trips and impacts related to air quality, greenhouse gas emissions, and transportation. Refer to Table 7-1, *Reduced Development Intensity Alternative Trip Generation*.

Table 7-1 Reduced Development Intensity Alternative Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Existing Uses								
General Light Industrial	345.41 TSF							
Existing Trip Generation [1]	**--**	**34**	**3**	**37**	**1**	**7**	**8**	**429**
Proposed Uses								
Apartment	845 DU							
Trip Generation [2]	--	85	346	431	338	186	524	5,678
Internal Capture [4]		(1)	(2)	(3)	(7)	(3)	(10)	(64)
Net Trip Generation (Residential)		**84**	**344**	**428**	**331**	**183**	**514**	**5,614**
Supermarket	6.00 TSF							
Trips / Unit [3]	--	2.29	1.53	3.82	4.71	4.53	9.24	106.78
Trip Generation	--	14	9	23	28	27	55	641
Internal Capture [4]		(2)	(1)	(3)	(3)	(7)	(10)	(64)
Net Trip Generation (Non-Residential)		**12**	**8**	**20**	**25**	**20**	**45**	**577**
Net Total Trip Generation		***62***	***349***	***411***	***355***	***196***	***551***	***5,762***

Source: LSA 2019.
Notes: TSF = Thousand Square Feet; DU = Dwelling Units
[1] Trip generation is based on driveway counts (peak hours and daily) collected on September 11, 2019.
[2] Trip generation obtained from the Westside Lofts IS/MND.
[3] Rates based on Land Use 850 - "Supermarket" from the ITE Trip Generation Manual, 10th Edition, Setting/Location - "General Urban/Suburban."
[4] Internal trip captures estimated with NCHRP 684 Internal Trip Capture Estimation Tool.

Discretionary actions required under this alternative would be similar to the proposed project, and would include a General Plan Amendment, Zone Change, Specific Plan, Master Plan, Development Agreement, Tentative Tract Map, Tree Removal Permit, and Public Art Plan. Similarly, upon City Council approval, this alternative would be subject to Measure Y.

7.5.1 Aesthetics

The Reduced Development Intensity Alternative would eliminate the creative office building and one level of Building A, which are both proposed along the southern project boundary adjacent to the I-405 Freeway under the proposed project. Thus, this alternative would slightly reduce visual impacts to drivers along the I-405 Freeway and the closest residences to the site, approximately 300 feet south of the I-405 Freeway. Shading impacts would also be reduced under this alternative as the creative office building would not be constructed

and Building A would be lower in height. The Specific Plan and Master Plan would still be adopted under this alternative; therefore, setbacks, building forms, and other development standards and design guidelines, including lighting standards, would still apply. Similar to the proposed project, this alternative would also meet several relevant General Plan policies pertaining to scenic quality. For example, this alternative would strengthen the image of the City as experienced from sidewalks and roadways by redeveloping the industrial site into a mixed-used community (General Plan Goal CD-1) and reinforce a sense of arrival into the City by developing an architecturally significant mixed-use development with significant landscape (General Plan Policy CD-3.2). However, this alternative would not contribute to City beautification by enhancing the visual environment of Costa Mesa's vehicular and pedestrian paths and corridors (General Plan Objective CD-1A) or promote a consistent landscape character along City streets (General Plan Policy CD-1.4) given the elimination of the Sunflower Avenue bicycle and pedestrian facility improvements and trail improvements towards the Santa Ana River Trail. This alternative would still underground existing electrical powerlines along the project frontage (General Plan Policy CD-1.5). Thus, impacts in this regard would be neither environmentally superior nor inferior to the proposed project.

7.5.2 Air Quality

This alternative would reduce regional air quality impacts by eliminating 25,000 square feet of creative office space, 212 residential units, and 1.5 acres of open space. The proposed reduction in development intensity would proportionally reduce regional construction emissions by approximately 15 to 20 percent. With a 20 percent reduction in construction emissions, VOC emissions would still exceed the SCAQMD threshold of 75 pounds per day with mitigation incorporated. As such, construction-related emissions would remain significant and unavoidable.

This alternative would generate approximately 5,762 ADT compared to 6,800 ADT under the proposed project; refer to Table 7-1. The reduction in vehicle trips would proportionally reduce the maximum daily operational regional emissions. Therefore, the project's less than significant operational air quality impacts would be further reduced under this alternative. While the project's significant and unavoidable construction-related VOC emissions would remain despite mitigation, this alternative would still reduce construction and operational air emissions compared to the proposed project. Thus, this alternative would be environmentally superior to the proposed project.

7.5.3 Cultural Resources

Similar to the proposed project, implementation of the Reduced Development Intensity Alternative would cover the same development area and could uncover cultural resources during grading activities or result in impacts to historical resources. This alternative would result in an increased depth of grading in the western portion of the project site due to the slight relocation of Building B in the area where the 1.5-acre open space was previously proposed. Nevertheless, similar to the proposed project, the potential to encounter cultural resources on-site would be reduced to less than significant upon implementation of mitigation. As such, this alternative would neither be environmentally superior nor inferior to the proposed project.

7.5.4 Energy

Under this alternative, proposed development intensity would be reduced and thus, associated electricity and natural gas demand would also proportionally be reduced. Additionally, the approximately 1,038 fewer ADT associated with this alternative would reduce transportation fuel consumption. Overall, construction and operational activities associated with this alternative would have reduced energy demands and impacts would remain less than significant. This alternative would be environmentally superior.

7.5.5 Geology and Soils

As this alternative proposes less residential and non-residential development, it would not expose as many residents and workers to potential adverse effects associated with the site's seismic-, geologic-, and soils-related hazards. However, additional excavation would occur in the western portion of the project site due to the slight relocation of Building B in the area where the open space was previously proposed. Thus, there may be greater potential to uncover previously undiscovered paleontological resources at increased depths in this area. Nevertheless, geology and soils impacts associated with this alternative would be similar to the proposed project and be less than significant with mitigation incorporated. This alternative would be neither environmentally inferior nor superior to the proposed project.

7.5.6 Greenhouse Gas Emissions

The Reduced Development Intensity Alternative would result in a reduction of residential units and non-residential square footage and would decrease vehicle trips compared to the proposed project by approximately 15 percent (1,038 fewer ADT). Therefore, this alternative would result in a proportional reduction in construction and operational GHG emissions. As with the proposed project, Mitigation Measures GHG-1 and GHG-2 would reduce GHG emissions. However, at least a 40 percent reduction in development intensity and ADT compared to the proposed project would be required to reduce GHG emissions to levels below the SCAQMD significance threshold of 3,000 $MTCO_2e/yr$. Therefore, impacts related to greenhouse gas emissions would be reduced, but remain significant and unavoidable. This alternative would be environmentally superior to the proposed project.

7.5.7 Hazards and Hazardous Materials

Similar to the proposed project, buildout of the Reduced Development Intensity Alternative would involve the use of hazardous materials during construction and could expose construction workers to hazardous materials during demolition from asbestos-containing materials, lead-based paint, or possible contaminated soils. Similar to the project, any remediation and/or demolition would be required to comply with the appropriate State regulations and responsible agencies and be required to implement Mitigation Measures HAZ-1 and HAZ-2.

Operations of the residential and specialty retail uses under this alternative would involve the use of small amounts of hazardous materials, such as cleansers, paints, fertilizers, and pesticides for cleaning and maintenance purposes. However, the proposed land uses are not associated with uses that utilize, generate, store, or transport large quantities of hazardous materials, and these hazardous materials would be governed

by existing local, State, and Federal regulations. Overall, construction and operational impacts would be similar to the proposed project and be less than significant with mitigation incorporated. This alternative would be neither environmentally inferior nor superior to the proposed project.

7.5.8 Hydrology and Water Quality

Under this alternative, the 1.5-acre open space would not be developed, and Building B would be relocated slightly to the west to occupy the previously proposed open space area. As such, it can be assumed, to some extent, that this alternative would slightly increase impervious surfaces. However, similar to the proposed project, this alternative is anticipated to reduce peak flow rates compared to existing conditions by implementing low impact development features and installing modular wetland systems that treat and reduce runoff volumes conveyed to the City's storm drain system. Therefore, both this alternative and the proposed project would have a beneficial impact on the hydrology and water quality of the project area. Similar to the proposed project, implementation of this alternative would result in compliance with the National Pollutant Discharge Elimination System Construction General Permit requirements and implementation of various BMPs associated with a project-specific Water Quality Management Plan and Stormwater Pollution Prevention Plan to reduce water quality impacts. Therefore, hydrology and water quality impacts of this alternative would be similar to the proposed project and be less than significant. This alternative would be neither environmentally superior nor inferior to the proposed project.

7.5.9 Land Use and Planning

The Reduced Development Intensity Alternative would allow development of residential and specialty retail uses with less development intensity than the proposed project. This alternative would require similar discretionary approvals as the proposed project: a General Plan Amendment, Zone Change, Specific Plan, Master Plan, Development Agreement, Tentative Tract Map, Tree Removal Permit, and Public Art Plan.

Given the reduction in residential development and elimination of the creative office use and recreational amenities, this alternative would not provide a mix of housing and commercial uses and employment opportunities (General Plan Policy LU-1.1) or provide a broad range of business uses that generate employment to various income levels (General Plan Policy LU-6.10) to the same extent as the proposed project. Additionally, this alternative would not maximize public space per General Plan Policy OSR-1.5 which requires plazas and public gathering spaces in private developments to serve recreation and social needs. This alternative also would not implement road diets to enhance bicycle and pedestrian facilities (General Plan Policy C-1.5), improve access to natural areas in the City (General Plan Policy CON-1.A.7), enhance bicycling and walking infrastructure (General Plan Policy CON-4.A.6), or promote a consistent landscape character along City streets (General Plan Policy CD-1.4) given the elimination of the pedestrian and bicycle facility improvements along Sunflower Avenue and the trail improvements on the western portion of the site. Regarding consistency with the Southern California Association of Governments' *2016-2040 Regional Transportation Plan/Sustainable Communities Strategies* (2016 RTP/SCS), this alternative would not encourage active transportation (2016 RTP/SCS Goal 6) or encourage land use and growth patterns that facilitate transit and active transportation (2016 RTP/SCS Goal 8) to the same extent as the proposed project given the elimination of the bicycle amenities and open space.

Additionally, while this alternative would still provide affordable units, the number would be proportionally lower than the proposed project and therefore, slightly fewer affordable housing units would be provided under this alternative. This could lead to the City meeting the housing goals to a slightly lesser extent than the project. Overall, this alternative would be environmentally inferior to the proposed project.

7.5.10 Noise

This alternative's reduction in development intensity would slightly reduce the length of project-related construction noise, however, peak construction noise volumes would occur similar to the proposed project. Due to similar peak construction noise volumes and a nominal reduction in construction duration, this alternative would result in similar less than significant construction noise impacts.

As stated, this alternative would generate 1,038 fewer ADT than the proposed project; refer to Table 7-1. Thus, the reduction in vehicle trips would proportionally reduce operational mobile noise impacts. Operational noise impacts would be reduced compared to the proposed project and remain less than significant. Overall, this alternative would be environmentally superior to the proposed project.

7.5.11 Population and Housing

Under the Reduced Development Intensity Alternative, buildout would result in 212 fewer residential units and 25,000 fewer square feet of creative office space. The community room also would not be constructed under this alternative. Thus, utilizing the City's average household size of 2.73, this alternative would result in 578 fewer residents and 93 fewer employees. The reduced population, housing, and employment associated with this alternative would be consistent with the City's growth projections identified in the 2016 RTP/SCS. However, the Reduced Development Intensity Alternative would provide fewer residential opportunities, including affordable housing, near major employment centers, thereby, improving the City's jobs-housing ratio and contributing towards the City's State-mandated RHNA housing goals to a lesser extent than the proposed project. Overall, weighing the benefits of less unplanned population growth in the project area with the drawbacks of meeting the City's RHNA requirements and improving the City's jobs-housing ratio to a lesser extent, this alternative would be neither environmentally superior nor inferior to the proposed project.

7.5.12 Public Services and Recreation

This alternative would develop 212 fewer residential units and eliminate the 25,000-square foot creative office building, 1.5-acre open space, 1,500-square foot community room, and several pedestrian and bicycle amenities. The reduced development intensity would similarly reduce demand for fire and police services. This alternative would also result in 578 fewer residents due to the reduction in residential units, thereby reducing demands for school, library, and parks and recreation services. The alternative would still be subject to development impact fees for fire and police services. Overall, impacts in this regard would be reduced compared to the proposed project and be environmentally superior.

7.5.13 Transportation

This alternative's reduction in development intensity would nominally reduce construction duration and associated construction traffic. Thus, short-term construction traffic impacts are anticipated to be similarly less than significant.

During operations, this alternative would generate approximately 5,762 ADT compared to 6,800 ADT under the proposed project; refer to Table 7-1. The approximately 15 percent reduction in ADT would reduce the project's impacts at several intersections and freeway ramps/mainlines; however, impacts would remain significant and unavoidable. Further, as this alternative would not construct the project's proposed creative office use, the project's significant and unavoidable impacts pertaining to VMT would be avoided with this alternative. Thus, this alternative would be environmentally superior to the proposed project given the reduction in ADT.

7.5.14 Tribal Cultural Resources

Similar to the proposed project, this alternative would require grading and excavation to redevelop the existing industrial development with a new residential mixed-use community. This alternative would result in an increased depth of grading at the western portion of the project site due to the slight relocation of Building B in the area where open space was previously proposed. Therefore, there may be a greater potential to encounter tribal cultural resources at increased depths under this alternative. Nevertheless, the potential to disturb previously undiscovered tribal cultural resources would be reduced to less than significant levels with mitigation incorporated. This alternative would be neither environmentally superior nor inferior to the proposed project.

7.5.15 Utilities and Service Systems

Under this alternative, building square footage would be reduced by approximately 15 to 20 percent, resulting in approximately 578 fewer residents and 93 fewer employees under this alternative compared to the proposed project. Therefore, this alternative would generate proportionally less wastewater, water demand, solid waste, and electricity and gas demands. This alternative would similarly install stormwater BMPs. As such, the project's less than significant impacts under this alternative would be reduced under this alternative. This alternative is environmentally superior to the proposed project.

7.5.16 Conclusion

Ability to Reduce Environmental Impacts

Under the Reduced Development Intensity Alternative, impacts to air quality (construction), greenhouse gas emissions, and transportation would be reduced compared to the proposed project, but would remain significant and unavoidable. This alternative would also lessen the project's less than significant impacts pertaining to energy, noise, public services and recreation, and utilities and service systems. This alternative would result in similar impacts in the areas of aesthetics, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, population and housing, and tribal cultural resources. Potential

impacts related to land use and planning would be slightly greater due to reduction of on-site and off-site amenities.

Ability to Achieve Project Objectives

Under the Reduced Development Intensity Alternative, some of the proposed project's objectives would be achieved, including the incorporation of sustainable development practice related to energy efficiency and green building standards (Objective No. 6) and enhancement of the visual attributes of the project site with high quality design, creative facades, and consistent development standards and design guidelines (Objective No. 7). This alternative would also achieve several project objectives to a lesser extent compared to the proposed project. For example, this alternative would redevelop the project site with a mix of residential and retail uses in a master planned setting that is fiscally neutral or positive for the City (Objective No. 1), increase the City's housing stock in areas with adequate public utilities and services and in close proximity to major employment centers (Objective No. 2), and improve jobs-housing ratio and reduce vehicle miles traveled (Objective No. 5), although not to the same extent as the proposed project due to the reduction of residential units and elimination of the creative office building, community room, open space, and bicycle amenities. Additionally, this alternative would not provide enhanced recreation and open space opportunities to serve future residents and commercial office tenants (Objective No. 3) or encourage alternative modes of travel through enhancing pedestrian and bicycle infrastructure (Objective No. 4) because it would eliminate the open space, bicycle amenities, pedestrian and bicycle facility improvements along Sunflower Avenue, and trail improvements along the western portion of the site towards the Santa Ana River Trail.

7.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires a lead agency to identify the "environmentally superior alternative" and, in cases where the "No Project" Alternative is environmentally superior to the proposed project, the environmentally superior development alternative must be identified. Table 7-2, *Comparison of Alternatives*, summarizes the comparative analysis presented above. As shown, the No Project/No Development Alternative results in the most "environmentally superior" or "neither environmentally superior nor inferior" topical areas and also eliminates the project's significant and unavoidable impacts related to construction air quality and greenhouse gas emissions; thus, it is the environmentally superior alternative. Since the "No Project" Alternative is environmentally superior to the proposed project, the environmentally superior development alternative is the Reduced Development Intensity Alternative.

Table 7-2 Comparison of Alternatives

Sections	Proposed Project	No Project/No Development Alternative	Reduced Development Intensity Alternative
Aesthetics	LTS/M	=	=
Air Quality	**S/U**	↓*	↓
Cultural Resources	LTS/M	↓	=
Energy	LTS	↓	↓
Geology and Soils	LTS/M	↓	=
Greenhouse Gas Emissions	**S/U**	↓*	↓
Hazards and Hazardous Materials	LTS/M	=	=
Hydrology and Water Quality	LTS	↑	=
Land Use and Planning	LTS	↑	↑
Noise	LTS	↓	↓
Population and Housing	LTS	=	=
Public Services and Recreation	LTS/M	↓	↓
Transportation	**S/U**	↓*	↓*
Tribal Cultural Resources	LTS/M	↓	=
Utilities and Service Systems	LTS	↓	↓

Notes: LTS = Less Than Significant; LTS/M = Less Than Significant With Mitigation; **S/U = Significant and Unavoidable**
↑ Indicates an impact that is greater than the project (environmentally inferior).
↓ Indicates an impact that is less than the project (environmentally superior).
= Indicates an impact that is equal to the project (neither environmentally superior nor inferior).
* Indicates an impact that would eliminate one or more significant and unavoidable impacts associated with the project.

As summarized in Section 7.5.16, the Reduced Development Intensity Alternative meets some of the proposed project's objectives, although not to the extent of the proposed project. This alternative would incorporate sustainable development practice related to energy efficiency and green building standards (Objective No. 6) and enhance the visual attributes of the project site with high quality design, creative facades, and consistent development standards and design guidelines (Objective No. 7). This alternative would also achieve several project objectives to a lesser extent compared to the proposed project. For example, this alternative would redevelop the project site with a mix of residential and retail uses in a master planned setting that is fiscally neutral or positive for the City (Objective No. 1), increase the City's housing stock in areas with adequate public utilities and services and in close proximity to major employment centers (Objective No. 2), and improve jobs-housing ratio and reduce vehicle miles traveled (Objective No. 5), although not to the same extent as the proposed project due to the reduction of residential units and elimination of the creative office building, community room, open space, and bicycle amenities. Additionally, this alternative would not provide enhanced recreation and open space opportunities to serve future residents and commercial office tenants (Objective No. 3) or encourage alternative modes of travel through enhancing pedestrian and bicycle infrastructure (Objective No. 4) because it would eliminate the open space, bicycle amenities, pedestrian and bicycle facility improvements along Sunflower Avenue, and trail improvements along the western portion of the site towards the Santa Ana River Trail.

7. Alternatives to the Proposed Project

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Chapter 8.0 Impacts Found Not to be Significant

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8. Impacts Found Not to Be Significant

CEQA provides that an EIR shall focus on the significant effects on the environment and discuss potential environmental effects with emphasis in proportion to their severity and probability of occurrence. During preparation of this EIR, the City conducted an analysis of the project's effect on specific environmental topic areas, included as part of the Environmental Checklist form presented in CEQA Guidelines Appendix G. Through the course of this evaluation, certain impacts were identified as "less than significant" or "no impact" due to the inability of a project of this scope and nature to yield such impacts or the absence of project characteristics producing effects of this type. These effects are not required to be included in the EIR's primary environmental analysis sections (Sections 5.1 through 5.15). In accordance with CEQA Guidelines Section 15128, the following discussion includes a brief description of impacts found to be less than significant. The lettered analyses under each topical area directly correspond to their order in CEQA Guidelines Appendix G.

AESTHETICS

AE-1 Have a substantial adverse effect on a scenic vista?

No Impact. The City's physical setting allows for views of scenic resources including the Pacific Ocean, Santa Ana River, Upper Newport Bay, and Santa Ana Mountains. Views of these resources are afforded at specific public locations within the City that provide uninterrupted, large expanse views of undeveloped land and these resources. According to the General Plan EIR, such locations include Fairview Park, Talbert Regional Park and its adjacent wildlife refuge, and the golf courses, parks, and ballfields in the City. These specific locations are not located within views of the project site.

The project site is located over 4.5 miles inland of the Pacific Ocean and over ten miles southwest of the Santa Ana Mountains. Views of the Pacific Ocean and Santa Ana Mountains are not afforded from the project site under existing conditions due to intervening topography, existing structures, and vegetation. Although the project site is located approximately 700 feet east of the Santa Ana River and a bicycle path extends from the project site's western boundary to the Santa Ana River Trail, there are no visual resources at this segment under existing conditions. No impact would occur in this regard.

AE-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

No impact. The proposed project is not adjacent to or near a State designated scenic highway (Caltrans 2017b). The closest officially designated State scenic highway is a portion of State Route 91 (SR-91), located over ten miles northeast of the site. Views of the project site are not afforded from SR-91 due to intervening topography, structures, and vegetation. No impact would occur in this regard.

AGRICULTURE AND FORESTRY RESOURCES

AG-1 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2019). No Farmland exists within the site vicinity. No impact would occur in this regard.

AG-2 Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project site is zoned Industrial Park (MP), and is not covered under an existing Williamson Act contract (DOC 2004). Thus, project implementation would not conflict with existing zoning for agricultural use, or a Williamson Act contract. No impact would occur in this regard.

AG-3 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))?

No Impact. The project site is zoned MP and is not occupied or used by forest land or timberland. Further, project implementation would not result in the rezoning of forest land, timberland, or timberland zoned Timberland Production. No impact would occur in this regard.

AG-4 Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Refer to Impact AG-3. No impacts would occur.

AG-5 Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. Refer to Impacts AG-1 through AG-4. No impacts would occur.

BIOLOGICAL RESOURCES

B-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. Sensitive biological resources are habitats or species that have been recognized by Federal, State, and/or local agencies as being endangered, threatened, rare, or in decline throughout all or part of their historical distribution. A literature review, records search, and biological survey, was conducted for the project site as part of the *Biological Resources Technical Memorandum for One Metro West* (Biological Resources Technical

Memorandum), prepared by LSA Associates, dated May 30, 2019; refer to Appendix O, *Biological Resources Technical Memorandum and Tree Removal Plan*. On-site vegetation primarily consists of non-native ornamental landscaping, non-native ornamental trees, and typical non-native ruderal species.

As documented, the project site does not contain native habitat that would support special-status plant or animal species, and there were no known candidate, sensitive, or special-status plant or animal species observed on the project site. The project site is developed with an existing industrial building and is surrounded on all sides by existing urban development. Therefore, the proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status. No impacts would occur in this regard.

B-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. According to the Biological Resources Technical Memorandum, the project site does not contain any riparian habitat or other sensitive natural community; refer to Appendix O. Although the Santa Ana River is located approximately 750 feet to the northwest of the project site, project implementation would have no impacts on the river. Therefore, the project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. No impacts would occur in this regard.

B-3 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?

No Impact. The project site is developed and does not contain any natural hydrologic or drainage features, or State or Federally protected wetlands; refer to Appendix O. Therefore, project implementation would not have a substantial adverse effect on State or Federally protected wetlands. No impacts would occur in this regard.

B-4 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact. The project site is developed in an urbanized area surrounded by Sunflower Avenue to the north, the South Coast Collection (SOCO) retail center to the east, Interstate 405 Freeway (I-405; San Diego Freeway) to the south, and industrial and logistics uses to the west. Due to the developed and urbanized nature of the project site and surrounding area, project implementation would not interfere with the movement of any native resident, migratory fish or wildlife species. Existing ornamental vegetation on-site has the potential to provide suitable nesting habitat for birds. The Migratory Bird Treaty Act (MBTA) governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, or nests. Mandatory compliance with the MBTA (PPP BIO-1 and SCA BIO-1) would reduce the project's potential construction-related impacts to migratory birds to a less than significant level.

8. Impacts Found Not to Be Significant

PPP BIO-1 The proposed project is required to comply with the Migratory Bird Treaty Act, which governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, or nests.

SCA BIO-1 Any vegetation removal should take place outside of the active nesting bird season (i.e., February 15–August 15), when feasible, to avoid impacts to nesting birds that are protected under the California Fish and Game Code. Should vegetation removal take place during this period, a qualified biologist should conduct a nesting bird survey prior to construction activities to ensure that birds are not engaged in active nesting within 100 feet of the project site. If nesting birds are discovered during preconstruction surveys, the biologist should identify an appropriate buffer (i.e., up to 500 feet depending on the circumstances and specific bird species) where no construction activities or other disturbances are allowed to occur until after the birds have fledged from the nest and the nest is no longer active (as determined by the qualified biologist).

B-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. Under Municipal Code Title 15, Chapter 5, *Parkway Trees*, the City has adopted several ordinances that pertain to trees on both public and private property. For any projects that include construction work in the public right-of-way, plans that accurately depict the public right-of-way require approval from the Planning Division and Public Services Department prior to any permits being issued by the Building and Safety Division. A tree removal and protection plan is required to identify all City parkway trees adjacent to the project site. The actual location and canopy diameter of City trees must be shown clearly on the plans. Approval from the Parks, Arts, and Community Services Commission (PACS) is required to remove and replace trees within City right-of-way. In compliance with City requirements, a tree removal and protection plan has been prepared for the proposed project; refer to Appendix O. According to the project's tree removal and protection plan, the project would remove six trees during construction, which would be replaced following infrastructure improvements. The City Arborist determined that the existing six trees are healthy and classified as Discretionary Removals, which require approval from the PACS (PPP BIO-2). Thus, upon approval from PACS, the project applicant would be required to replace the six existing trees at a 3:1 ratio. As such, impacts in this regard would be less than significant.

PPP BIO-2 The proposed project is required to obtain a tree removal permit from the Parks, Arts & Community Services Commission (PACS) for any removal of trees within the City's public right-of-way (Municipal Code Chapter V, *Parkway Trees*). All permit terms for tree replacement would be implemented (at a ratio of 3:1). Before said trees are removed, the PACS shall provide recommendations and findings to the Director of Public Services.

B-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

No Impact. According to the General Plan EIR, although the City is located within the boundaries of the *County of Orange Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan* (NCCP/HCP), the City is not a participant in the plan. The City's Talbert Nature Preserve, however, is included as an area that could support future NCCP/HCP reserves. The project site is located over three miles to the northeast of Talbert Regional Park. No other approved local, regional, or State habitat conversation plans apply to the site. Therefore, the proposed project does not conflict with the NCCP/HCP, or any other approved local, regional, or State HCP. No impacts would occur in this regard.

GEOLOGY AND SOILS

G-5 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The project would not involve the use of septic tanks or alternative wastewater disposal systems, and no impacts would occur in this regard.

HAZARDS AND HAZARDOUS MATERIALS

HAZ-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. The nearest school to the project site is the California Elementary School and Tewinkle Middle School, located approximately 0.20-mile southeast of the project site at 3232 and 3224 California Street, respectively. As noted in Section 5.7, *Hazards and Hazardous Materials*, project implementation is not anticipated to result in substantial hazards to the public or the environment arising from the routine use, storage, transport, and disposal of hazardous materials during construction or long-term operation of the proposed project. All construction activities would be subject to compliance with existing laws and regulations (see PPP HAZ-1 and PPP HAZ-4) related to hazardous materials. Therefore, impacts in this regard would be less than significant.

HAZ-4 Be located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

No Impact. Government Code Section 65962.5 requires the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) to compile and update the regulatory sites listing (per the Code Section's criteria). Additionally, the State Department of Health Services is also required to compile and update, as appropriate, a list of all public drinking water wells that contain detectable levels of organic contaminants and are subject to water analysis pursuant to Health and Safety Code Section 116395. Government Code Section 65962.5 requires the local enforcement agency, as designated pursuant to California

Code of Regulations Tile 14 Section 18051 to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste. Based on the California Environmental Protection Agency's (CalEPA) *Cortese List Data Resources*, the project site is not reported on a list maintained pursuant to Government Code Section 65962.5 (CalEPA 2019). No impacts would occur in this regard.

HAZ-7 Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. The project site and surrounding land are built-out with urbanized uses; no wildland vegetation that could fuel wildfires is present. The project site does not lie within, and is not adjacent to, Very High Fire Hazard Severity Zones as mapped by the California Department of Forestry and Fire Protection (CAL FIRE 2007). Thus, no impact would occur.

HYDROLOGY AND WATER QUALITY

HYD-4 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact. The absence of any large bodies of water within Costa Mesa and the location of high bluffs adjacent to Newport Bay preclude the possibility of seiches at the project site. Furthermore, the project site is located over 4.5 miles inland of the Pacific Ocean and is not located within a tsunami hazard zone according to the California Department of Conservation (DOC 2015). As discussed in Section 5.8, *Hydrology and Water Quality*, the site is also not susceptible to flood hazards. Therefore, the proposed project would not release pollutants due to project inundation in flood hazard, tsunami, or seiche zones and impacts would be less than significant.

LAND USE AND PLANNING.

LU-1 Physically divide an established community?

No Impact. Factors that could physically divide a community include, but are not limited to:

- Construction of major highways or roadways;
- Construction of storm channels;
- Closing bridges or roadways; and
- Construction of utility transmission lines.

The key factor with respect to this threshold is the potential to create physical barriers that change the connectivity between areas of a community to the extent that persons are separated from other areas of the community. The site is currently developed with an existing one-story industrial building, and industrial, commercial, transportation, and logistics uses surround the site on all sides. The proposed land uses are intended to complement the nearby SOCO retail center. The project would also enhance connectivity to the Santa Ana River Trail by implementing protected bicycle lanes along Sunflower Avenue and creating an Active Transportation Hub near the proposed open space area that may include bicycle lockers, bicycle storage, and

repair facilities. As a result, the proposed project would not divide an established community, and no impact would occur.

MINERAL RESOURCES

MIN-1 Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the State?

No Impact. The project site is mapped Mineral Resource Zone 3 (MRZ-3) by the California Department of Conservation, indicating that it is in an area containing mineral deposits of indeterminable significance (DOC 1981). According to the General Plan EIR, there are no active mining operations within the City. The project site is located within a built-out urban area that is largely developed with industrial, commercial, transportation, and logistics uses and would be incompatible with mining use. No impacts would occur in this regard.

MIN-2 Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. Refer to Impact MIN-1.

POPULATION AND HOUSING

PH-2 Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project site currently consists of a one-story industrial building, which would be replaced with a mixed-use development consisting of 1,057 multi-family residential units, 25,000 square feet of creative office space, 6,000 square feet of specialty retail use, and 1.5 acres of open space. As such, development of the proposed project would not displace existing people or housing. No impacts would occur in this regard.

TRIBAL CULTURAL RESOURCES

TCR-1(i) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

No Impact. As analyzed in Impact 5.3-1, there are no known potential historical resources in the project area. As such, development of the proposed project would not adversely impact any resources listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources per Public Resources Code Section 5020.1(k). No impacts to historic tribal cultural resources would occur in this regard.

WILDFIRE

If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project.

W-1 Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. According to the California Department of Forestry and Fire Protection's *Orange County Fire Hazard Severity Zones in SRA Map*, the City of Costa Mesa is not located in or near a State responsibility area nor is the City designated as a high fire hazard severity zone (CALFIRE 2007). No impacts would occur in this regard.

W-2 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?

No Impact. Refer to Impact W-1.

W-3 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?

No Impact. Refer to Impact W-1.

W-4 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?

No Impact. Refer to Impact W-1.

Chapter 9.0 Significant Irreversible Changes Due to the Proposed Project

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9. Significant Irreversible Changes Due to the Proposed Project

Section 15126.2(c) of the CEQA Guidelines requires that an EIR describe any significant irreversible environmental changes that would be caused by the proposed project should it be implemented. Specifically, the CEQA Guidelines states:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highways improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

In the case of the proposed One Metro West project, its implementation would involve redevelopment of the project site to support up to 1,057 multi-family residential units, 25,000 square feet of creative office space, 6,000 square feet of specialty retail use, and 1.5 acres of open space within Costa Mesa.

The project would consume limited, slowly renewable, and nonrenewable resources. This consumption would occur during the construction phase of the project and would continue throughout its operational lifetime. Project development would require a commitment of resources that would include: (1) building materials, (2) fuel and operational materials/resources, and (3) the transportation of goods and people to and from the project site. Project construction would require the consumption of resources that are not renewable, or which may renew so slowly as to be considered non-renewable. These resources would include construction supplies, such as aggregate materials used in concrete and asphalt, metals, and water. Fossil fuels such as gasoline and oil would also be consumed in the use of construction vehicles and equipment.

The resources that would be committed during project operation would be similar to those currently consumed to operate the existing industrial building. Resources would include energy resources such as electricity and natural gas, petroleum-based fuels required for vehicle trips, fossil fuels, and water. Fossil fuels would represent the primary energy source associated with both construction and ongoing operation of the project and the existing, finite supplies of these natural resources would be incrementally reduced. Project operation would occur in accordance with California Code of Regulations Title 24, Part 6, which sets forth conservation practices that would limit the amount of energy consumed by the project. However, the energy requirements associated with the project would, nonetheless, represent a long-term commitment of essentially non-renewable resources.

In summary, project construction and operation would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would limit the availability of these particular resource quantities

9. Significant Irreversible Changes Due to the Proposed Project

for future generations or for other uses during the life of the project. The project would involve the use of building materials and energy, some of which are non-renewable resources. Consumption of these resources would occur with any development in the region and are not unique to the project. Additionally, increasingly efficient building fixtures and vehicular engines are expected to offset this demand to some degree. As such, although irreversible environmental changes would result from the project, such changes would not be considered significant.

Chapter 10.0 Growth-Inducing Impacts of the Proposed Project

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10. Growth-Inducing Impacts of the Proposed Project

Section 15126 of the CEQA Guidelines requires that an EIR discuss the project's potential to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The CEQA Guidelines also indicate that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. This section analyzes such potential growth-inducing impacts, based on criteria suggested in the CEQA Guidelines.

In general terms, a project may foster spatial, economic, or population growth in a geographic area if it meets any one of the following criteria:

- Removal of an impediment to growth (e.g., construction or extension of major infrastructure or changes in existing land use regulations);
- Fostering economic expansion or growth (e.g., changes in revenue base and employment expansion);
- Fostering of population growth (e.g., construction of additional housing), either directly or indirectly;
- Establishment of a precedent-setting action (e.g., an innovation, a change in zoning, and general plan amendment approval); or
- Development of or encroachment on an isolated or adjacent area of open space (being distinct from an in-fill project).

Should a project meet any one of the above-listed criteria, it may be considered growth inducing. Generally, growth-inducing projects are either located in isolated, undeveloped, or underdeveloped areas, necessitating the extension of major infrastructure such as sewer and water facilities or roadways, or encourage premature or unplanned growth. Note that the CEQA Guidelines require an EIR to "discuss the ways" a project could be growth inducing and to "discuss the characteristics of some projects that may encourage…activities that could significantly affect the environment." However, the CEQA Guidelines do not require that an EIR predict (or speculate) specifically where such growth would occur, in what form it would occur, or when it would occur. The answers to such questions require speculation, which CEQA discourages (refer to CEQA Guidelines Section 15145).

In accordance with the CEQA Guidelines and based on the above-listed criteria, the project's potential growth-inducing impacts are evaluated below.

10. Growth-Inducing Impacts of the Proposed Project

Removal of an Impediment to Growth

Construction or Extension of Major Infrastructure Facilities

The project site is surrounded by urban development on all sides and the existing industrial building currently receives utility services (e.g., water, wastewater, storm drain, solid waste, natural gas, and electricity services) that the proposed project would similarly utilize. The project area is also well-served by adjacent roadways. As detailed in Chapter 3.0, *Project Description*, several infrastructure connections and improvements, including water, sewer, storm drain, electrical, and gas lines, are proposed to accommodate the project. However, these proposed infrastructure improvements would not remove obstacles to growth since the site is already served by existing utility providers and would mostly serve as connection lines to existing connections in adjacent roadways.

Changes in Existing Land Use Regulations

As detailed in Section 3.4, *Intended Uses of the EIR*, the project requires several discretionary approvals related to land use regulations, including a General Plan Amendment, Zone Change, Specific Plan, Master Plan, Development Agreement, Tentative Tract Map, Tree Removal Permit, and Public Art Plan. Based on the site's existing Industrial Park land use designation and zoning district, the site is currently intended be developed as an industrial use. Approval of the proposed discretionary actions would change the site's existing land use regulations and would remove obstacles to growth at the site (i.e., allow the project site to be developed as a mixed-use community in a master planned setting with on-site amenities, open space, and connection to existing bicycle trails pursuant to the *One Metro West Specific Plan* [Specific Plan] and Master Plan).

Foster Economic Expansion or Growth

During project construction, a number of design, engineering, and construction jobs would be created. This would last until project construction is completed. Construction employees would likely be absorbed from the regional labor force, and the project, itself, would not attract new workers to the region.

Project operations would introduce up to 2,886 residents and generate approximately 59 net jobs; refer to Section 5.11, *Population and Housing*. The project is a mixed-use infill development in an urban area of Costa Mesa with the intent to bring people closer to existing jobs, entertainment, and employment centers. Residents and employees of the proposed project would seek shopping, entertainment, employment, home improvement, and other economic opportunities in the City and surrounding area. This would create an increased demand for such economic goods and services and would, therefore, encourage the creation of new businesses and/or the expansion of existing businesses that address these needs. More importantly, existing shopping, entertainment, and employment centers in the immediate project area would serve future residents. Economic growth could occur within the project area due to project implementation; however, given the built out nature of the site vicinity, future economic effects are not expected to significantly affect the environment.

Foster Population Growth

A project could induce population growth in an area either directly or indirectly. More specifically, the development of new residences or businesses could induce population growth directly, whereas the extension of roads or other infrastructure could induce population growth indirectly. The site is located in a developed

area of the City and does not involve the extension of roads or other infrastructure into undeveloped areas. Thus, the project would not indirectly induce population growth; refer to the "Removal of an Impediment to Growth" Section above.

As analyzed in Section 5.11, *Population and Housing*, the proposed 1,057 units have the potential to support up to 2,886 residents. Additionally, the proposed creative office, specialty retail, community room, and leasing office would generate employment opportunities that could directly increase the City's population (e.g. future employees relocating to the City). Approximately 129 jobs would be created. The existing industrial building currently employs up to 70 workers; therefore, the project would result in a net increase of 59 jobs. Many factors influence personal housing location decisions (i.e., family income levels and the cost and availability of suitable housing in the local area). Further, many future project employees could already live in Costa Mesa. Thus, it would be highly speculative to estimate the number of future employees who would relocate to the City. Conservatively assuming that all employees relocate to the City, project implementation could result in a population increase of 2,945 people.

As shown in Table 5.11-2, SCAG projects the City's population to increase from 111,200 to 116,400 people by 2040, an increase of approximately 5,200 people. Thus, the residents and employees of the proposed project would account for approximately 57 percent of the population growth forecasted by SCAG in Costa Mesa between 2012 and 2040.

Although the project involves unplanned population growth outside of the scope of the General Plan and SCAG projections, the environmental impacts of such unplanned population growth are evaluated, planned for, and mitigated as part of the project throughout this EIR. Additionally, the project would not result in land use changes that substantially increase employment opportunities, nor implement any new policies that could induce substantial unplanned population growth. The project's population and employment growth would also be offset by the more substantial increase in housing units, a portion of which would include affordable housing to help meet the City's 6th cycle RHNA allocations. Further, the project is in an urban area with existing infrastructure that can support the proposed infill development. All proposed infrastructure improvements (i.e., sewer, water, and storm drains) are located on-site to support anticipated growth generated by the project and the potential physical environmental impacts of such improvements are analyzed in Section 5.15, *Utilities and Service Systems*. No additional infrastructure improvements (e.g., roadways and utilities) would be implemented that could indirectly induce population growth elsewhere in the City. Thus, growth inducing impacts related to population growth would be less than significant in this regard.

Establishment of A Precedent-Setting Action

As stated above, the proposed project would require a General Plan Amendment, Zone Change, Specific Plan, Master Plan, Development Agreement, Tentative Tract Map, Tree Removal Permit, and Public Art Plan. The approval of these discretionary actions would not set a precedent that would make it more likely for other projects in the City to gain approval of similar applications. For example, a future project requesting to redesignate or rezone a site would need to undergo the same environmental review as the proposed project and mitigate potentially significant environmental impacts on a project-level. The proposed approvals would only regulate future land development within the Specific Plan area by limiting permitted uses and requiring future

development on-site to comply with development standards and design guidelines in the Specific Plan and Master Plan. While the project would result in the development of a mixed-use residential community in a predominantly industrial area, the site is also adjacent to existing retail and commercial uses (e.g., SOCO and The Mix) that would be compatible with the project's residential, creative office, specialty retail, and open space uses. Further, future projects with similar required discretionary actions would also be subject to applicable environmental review on a project-by-project basis. Implementation of the proposed project would not establish a procedure that would make future re-designations and/or rezones easier and would be speculative to determine any such effect. As such, the proposed project would not involve a precedent-setting action that could significantly affect the environment.

Development or Encroachment of Open Space

The project is an infill development and would redevelop the existing industrial building on-site into a mixed-use development. The site is also located in an urbanized area of Costa Mesa. Although open space uses are present nearby (i.e., Santa Ana River and Santa Ana River Trail), these uses are designated as such and the project would not result in the development or encroachment into any areas of existing open space. Therefore, the proposed project would not be growth-inducing with respect to development or encroachment into an isolated or adjacent area of an existing open space.

Chapter 11.0 Organizations and Persons Consulted

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11. Organizations and Persons Consulted

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11. Organizations and Persons Consulted

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11. Organizations and Persons Consulted

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