



BREA PLAZA EXPANSION PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NO. 2020079022

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BREA PLAZA EXPANSION PROJECT

City of Brea

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Abbreviations and Acronyms

ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily traffic
amsl	above mean sea level
AQMP	air quality management plan
AST	aboveground storage tank
BAU	business as usual
bgs	below ground surface
BMP	best management practices
CAA	Clean Air Act
CAFE	corporate average fuel economy
CalARP	California Accidental Release Prevention Program
CalEMA	California Emergency Management Agency
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cfs	cubic feet per second
CGS	California Geologic Survey
CMP	congestion management program

Abbreviations and Acronyms

CNDDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO ₂ e	carbon dioxide equivalent
Corps	US Army Corps of Engineers
CSO	combined sewer overflows
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dba	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
GWP	global warming potential
HCM	Highway Capacity Manual
HQTA	high quality transit area
HVAC	heating, ventilating, and air conditioning system
IPCC	Intergovernmental Panel on Climate Change
L _{dn}	day-night noise level
L _{eq}	equivalent continuous noise level
LBP	lead-based paint
LCFS	low-carbon fuel standard
LOS	level of service
LST	localized significance thresholds
M _w	moment magnitude
MCL	maximum contaminant level
MEP	maximum extent practicable

Abbreviations and Acronyms

mgd	million gallons per day
MMT	million metric tons
MPO	metropolitan planning organization
MT	metric ton
MWD	Metropolitan Water District of Southern California
NAHC	Native American Heritage Commission
NO _x	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O ₃	ozone
OES	California Office of Emergency Services
PM	particulate matter
POTW	publicly owned treatment works
ppm	parts per million
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMP	risk management plan
RMS	root mean square
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	state implementation plan
SLM	sound level meter
SoCAB	South Coast Air Basin
SO _x	sulfur oxides
SQMP	stormwater quality management plan
SRA	source receptor area [or state responsibility area]
SUSMP	standard urban stormwater mitigation plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

Abbreviations and Acronyms

TAC	toxic air contaminants
TNM	transportation noise model
tpd	tons per day
TRI	toxic release inventory
TTCP	traditional tribal cultural places
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	urban water management plan
V/C	volume-to-capacity ratio
VdB	velocity decibels
VHFHSZ	very high fire hazard severity zone
VT	vehicle miles traveled
VOC	volatile organic compound
WQMP	water quality management plan
WSA	water supply assessment

1. Executive Summary

1.1 INTRODUCTION

This draft environmental impact report (DEIR) addresses the environmental effects associated with the implementation of the proposed Brea Plaza Expansion 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. An environmental impact report analyzes potential environmental consequences in order to inform the public and support informed decisions by local and state governmental decision makers. Since the circulation of the Notice of Preparation (NOP) and Scoping Meeting, the proposed project has been revised to eliminate the hotel component, reduce the number of residential units, and increase the amount of parking provided.

This DEIR has been prepared pursuant to the requirements of CEQA and the City of Brea's CEQA procedures. The City of Brea, 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 DEIR derive from on-site 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, cultural resources, energy, greenhouse gas emissions, noise, and transportation).

1.2 ENVIRONMENTAL PROCEDURES

This DEIR 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.

1. Executive Summary

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.

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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 or environmental impacts.

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

Chapter 12. Qualifications of Persons Preparing EIR: Lists the people who prepared this EIR for the proposed project.

Chapter 13. Bibliography: The technical reports and other sources used to prepare this EIR.

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

- Appendix A: NOP and NOP Comments
- Appendix B: Mitigation Monitoring Program
- Appendix C1: Air Quality and Greenhouse Gas Emissions Modeling
- Appendix C2: Construction Health Risk Assessment
- Appendix C3: Energy Worksheets
- Appendix D: Cultural Resources Records Search
- Appendix E: Native American Heritage Commission Tribal Consultation List and Tribal Correspondence
- Appendix F: Service Provider Responses
- Appendix G: Sewer Study
- Appendix H: Preliminary Hydrology Report
- Appendix I: Preliminary Water Quality Management Plan
- Appendix J1: VMT Study
- Appendix J2: Traffic Circulation Assessment
- Appendix K: Parking Study
- Appendix L: Noise Analysis

1.2.2 Type and Purpose of This DEIR

This DEIR has been prepared as a “Project EIR,” as 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

1. Executive Summary

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 City of Brea is bordered by the cities of La Habra to the northwest; Fullerton to the southwest and south; Placentia to the south; Yorba Linda to the southeast and east; unincorporated Orange County to the east, northeast, and north; Chino Hills (San Bernardino County) to the northeast; and unincorporated Los Angeles County to the northwest (see Figure ES-1, *Regional Location*).

The proposed project would be on 2.2 acres in the northwest portion of the Brea Plaza Shopping Center—1639 East Imperial Highway—which encompasses approximately 16 acres in Brea. The Brea Plaza Shopping Center is bounded by the Mercury Insurance office development to the north, South Associated Road and a single-family residential neighborhood to the east, Imperial Highway/State Route 90 (SR-90) and commercial development in Fullerton to the south, and SR-57 to the west. Figures ES-1 and ES-2, *Local Vicinity*, show the location of the site within the regional and local contexts of Orange County and the City of Brea, respectively.

1.4 EXISTING LAND USE

An aerial photograph of the Brea Plaza Shopping Center is shown on Figure ES-3, *Aerial Photograph*. The Brea Plaza Shopping Center, which began operations in the early 1980s, has 165,329 square feet of commercial uses with a mix of tenants, including Mothers Market (north side), Buca di Beppo (west side), Lucille's Smokehouse Bar-B-Que (south side), Chick-fil-A (south side), Friar Tux (northeast side), Total Wine and More (west side), Custom Comfort Mattress (northwest side), Grand Salon (west side), and Brea Plaza 5 Cinemas (northwest side).

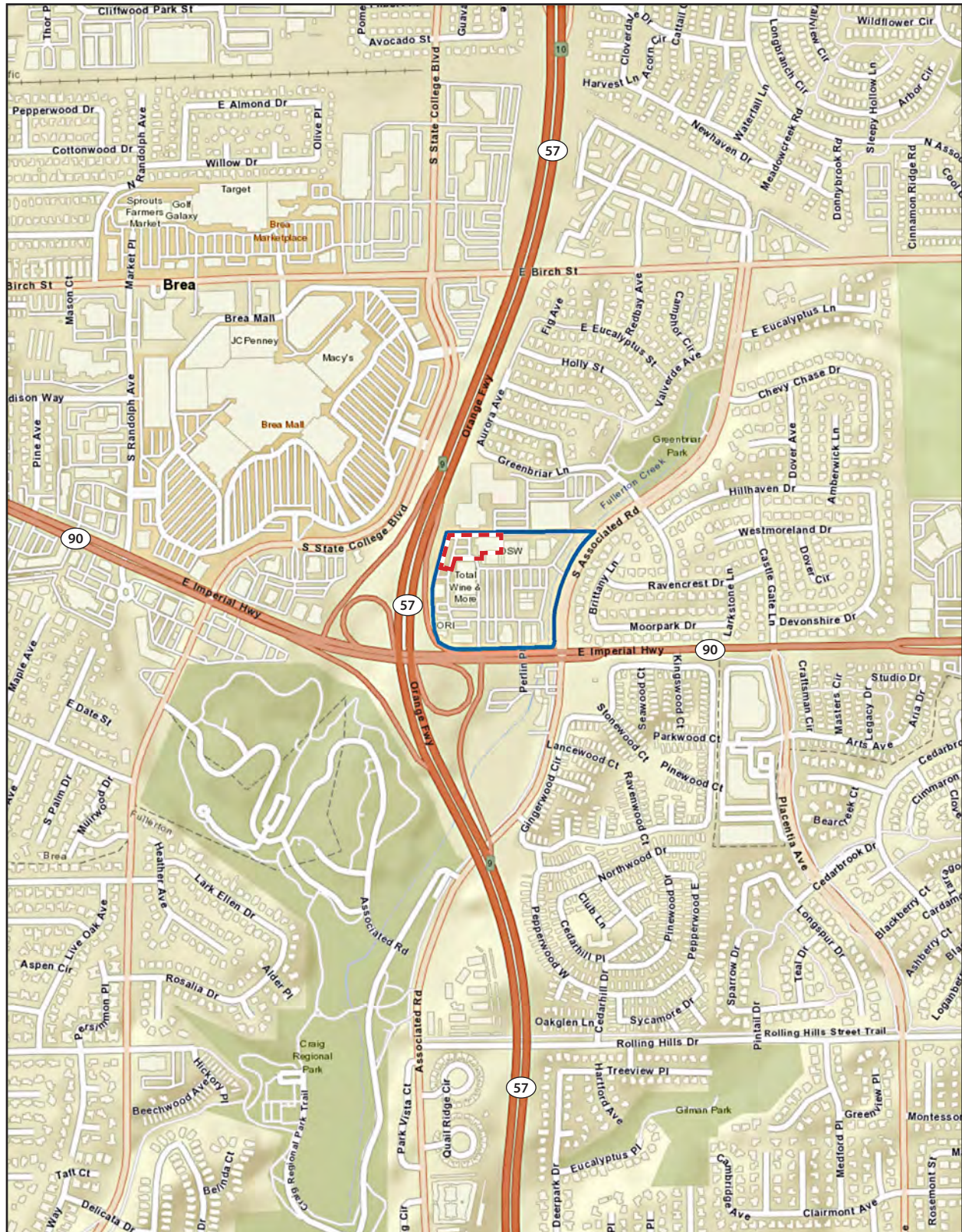
There are 739 parking spaces in the Brea Plaza Shopping Center, as reported in the April 2021 LSA parking study (see Appendix K). Additionally, the applicant has an easement with Mercury Insurance for approximately 180 spaces during business hours, and all surface spaces (approximately 500 spaces) after 5:00 pm and on weekends; the memorandum of understanding (MOU), which provides details on the easement will expire in April 2026, and the project applicant will be required to accommodate parking on the project site. Vehicular access to the Brea Plaza Shopping Center is provided via a southbound dedicated right-turn-only lane, a northbound dedicated left-turn-only lane, and a full-access driveway on Associated Road, and a right-turn-only driveway on Imperial Highway, plus the signalized intersection of Imperial Highway at SR-57 northbound ramps/Brea Plaza.



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Figure ES-2 - Local Vicinity
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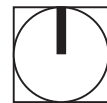


--- Area of Disturbance

— Project Boundary

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Scale (Feet)

Source: ESRI, 2020



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Figure ES-3 - Aerial Photograph
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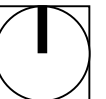


--- Area of Disturbance

— Project Boundary

Source: Nearmap, 2020

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Scale (Feet)



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1.5 PROJECT SUMMARY

The proposed project would require the demolition of the 18,450-square-foot Brea Plaza 5 Cinemas (1,110 seats), and 139 surface parking spaces, and subsequent development of a new building on approximately 2.2 acres in the northwestern portion of the 16-acre Brea Plaza Shopping Center to accommodate the proposed residential and office uses and parking. Table ES-1, *Brea Plaza Expansion Project Land Use Summary*, identifies the existing and proposed improvements. The proposed project would result in a net increase of 189 residential units, 397 parking spaces, and a reduction of 2,905 commercial square feet on the 2.2-acre portion of the 16-acre site. Figure ES-4, *Conceptual Site Plan*, shows the overall conceptual site plan including office and residential uses, and parking. Figure ES-5a and Figure ES-5b, *Conceptual Mixed-Use Building Cross-Section*, show the conceptual building cross-sections. The proposed project would require a general plan amendment, a zone change from General Commercial (C-G) to Mixed Use I; the applicant would submit a request for a development agreement.

Table ES-1 Brea Plaza Expansion Project Land Use Summary

Tenant	Existing (square feet)	Demolition (square feet)	New Construction		Total Site	
			Units or Rooms or Spaces	Square Feet	Units or Rooms or Spaces	Square Feet
Residential						
Residential	—	—	189 ¹	222,447 ²	189	222,447
Commercial						
Office	—	—	—	21,355 ³	—	21,355
Medical Office	1,596	—	—	—	—	1,596
Restaurants	42,649	—	—	—	—	42,649
1,100-Seat Movie Theater	18,450	18,450	—	—	—	0
Grocery Store	16,206	—	—	—	—	16,206
Retail	68,415	—	—	—	—	68,415
Liquor Store	18,013	—	—	—	—	18,013
Subtotal Commercial	165,329	18,450	—	21,355	—	168,234
Parking						
3-Level Parking Structure (L1, P2, P3)	—	—	397 spaces ⁴	182,108	397 spaces	182,108
Surface Parking	739 spaces ⁵ 465,700	139 spaces 77,382	—	—	600 spaces	388,318
Total	165,329	18,450	189 units 397 spaces	222,447	189 units	570,426
Net Change	189 residential units; -2,905 commercial square feet; 258 parking spaces					

Notes: L1 = Level 1, P2 = Level 2, P3 = Level 3

¹ Co-living bedrooms are not counted as individual apartments. If the co-living unit bedrooms were counted as individual units, then the total apartment count goes to 229.² The 19,931 square foot amenity deck is not included in the total square footage.³ The office building includes 18,147 square feet of leasable space; the outdoor terrace (2,115 square feet) is not included in the total square footage.⁴ The parking structure will include 10 tandem stalls for a total of 397 new parking spaces.⁵ There are a total of 739 stalls on the 16-acre site plus an additional 180 spaces during business hours and all surface spaces after 5:00 pm and on weekends (roughly 500) through a memorandum of understanding with Mercury Insurance, which is effective through in April 2026.

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1.5.1 Residential Component

The residential component of the project would be a five-story structure atop the three-story parking structure, resulting in an eight-story building along the northern and northwestern portion of the project site. Table ES-2, *Residential Unit Summary*, provides a breakdown of the unit type for the proposed mixed-use residential development. The proposed residential building would include a rooftop garden on an amenity deck. The residential units would include studio and 1-bedroom to 4-bedroom co-living apartments, including affordable units. Additionally, a portion of the proposed apartments would be used for extended stays by corporate clients (e.g., Mercury Insurance).

Table ES-2 Residential Unit Summary	
Type of Unit	Number of Dwelling Units¹
Studio Units	16
One-Bedroom Units	119
Two-Bedroom Units	44
Three-Bedroom Units	10 ²
Four-Bedroom Units	10 ³
Total Units	189
Residential Square Feet	222,447

¹ Co-living bedrooms are not counted as individual apartments. If the co-living-unit bedrooms were counted as individual units, the total apartment count increases to 229.

² Five of the ten 3-bedroom units would be co-living units.

³ All of the ten 4-bedroom units would be co-living units.

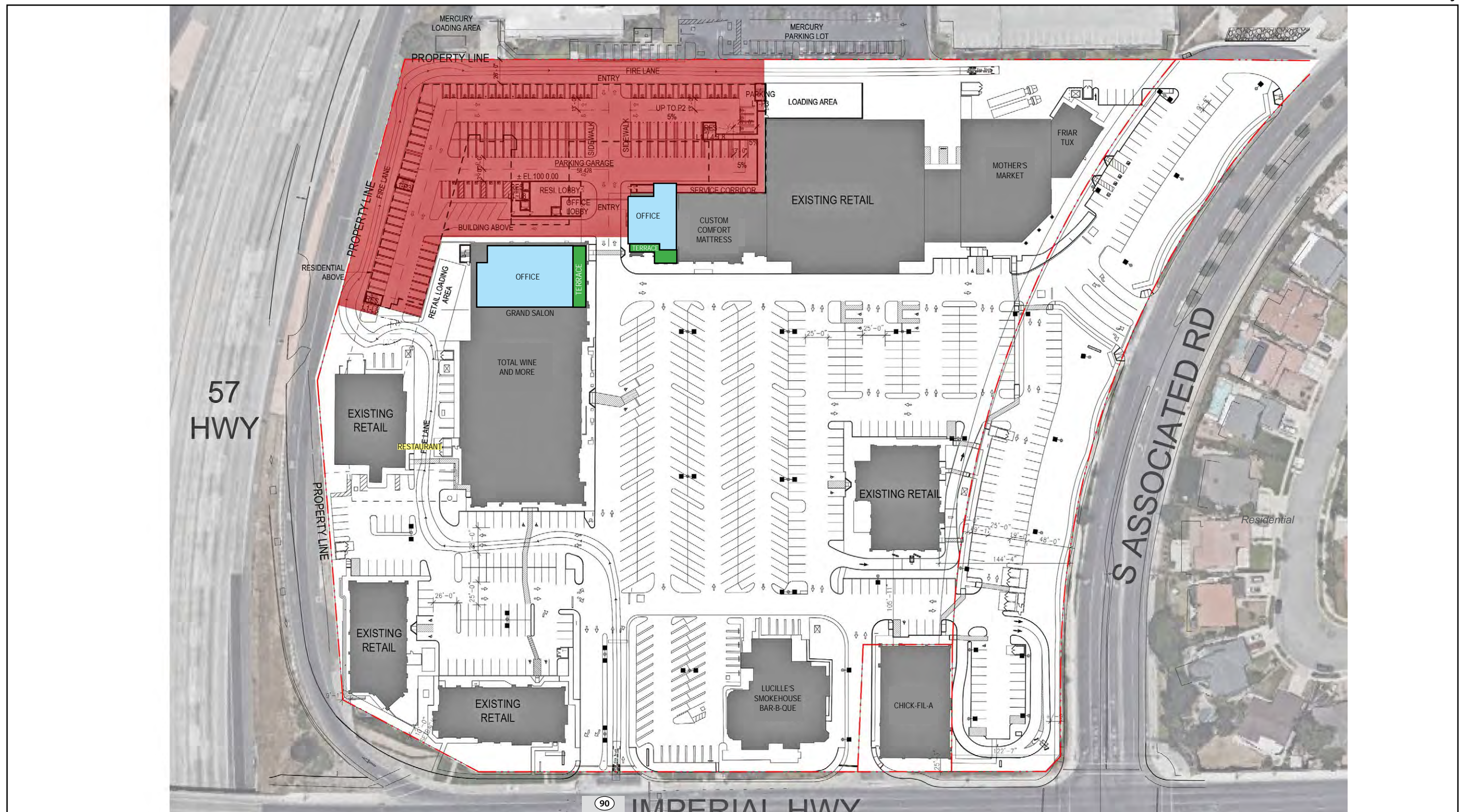
1.5.2 Office Component

As shown in Figure ES-5b, the eastern and central portions of the new building would be five stories atop a parking garage and would include the 21,355-square-foot co-working office (approximately 4,000 square-feet of building area above Custom Comfort Mattress and approximately 8,000 square-feet of building area above Grand Salon). The office component would include terrace areas totaling 2,115 square-feet. The office building hours would primarily be during the weekday from 8:30 am to 5:00 pm.

1.5.3 Signage Program

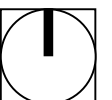
The proposed project includes signage for Brea Plaza on the southern façade of the five-story structure.

Figure ES-4 - Conceptual Site Plan
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Area of Disturbance

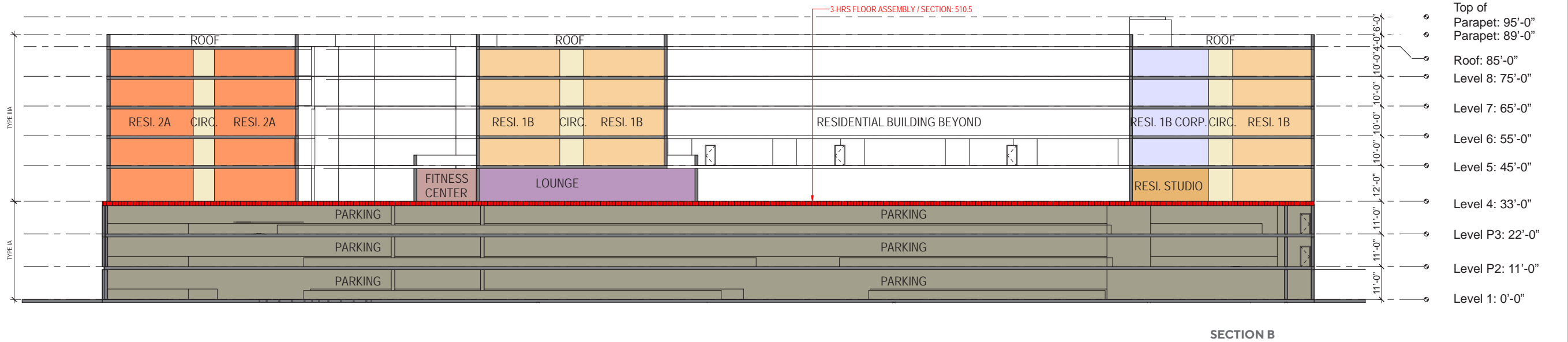
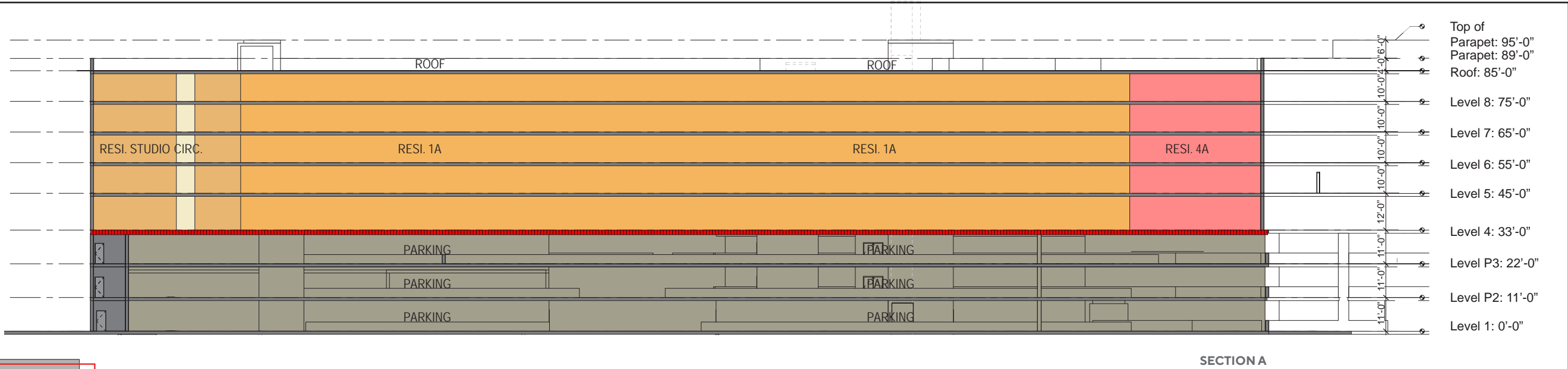
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Figure ES-5a - Conceptual Mixed-Use Building Cross-Section
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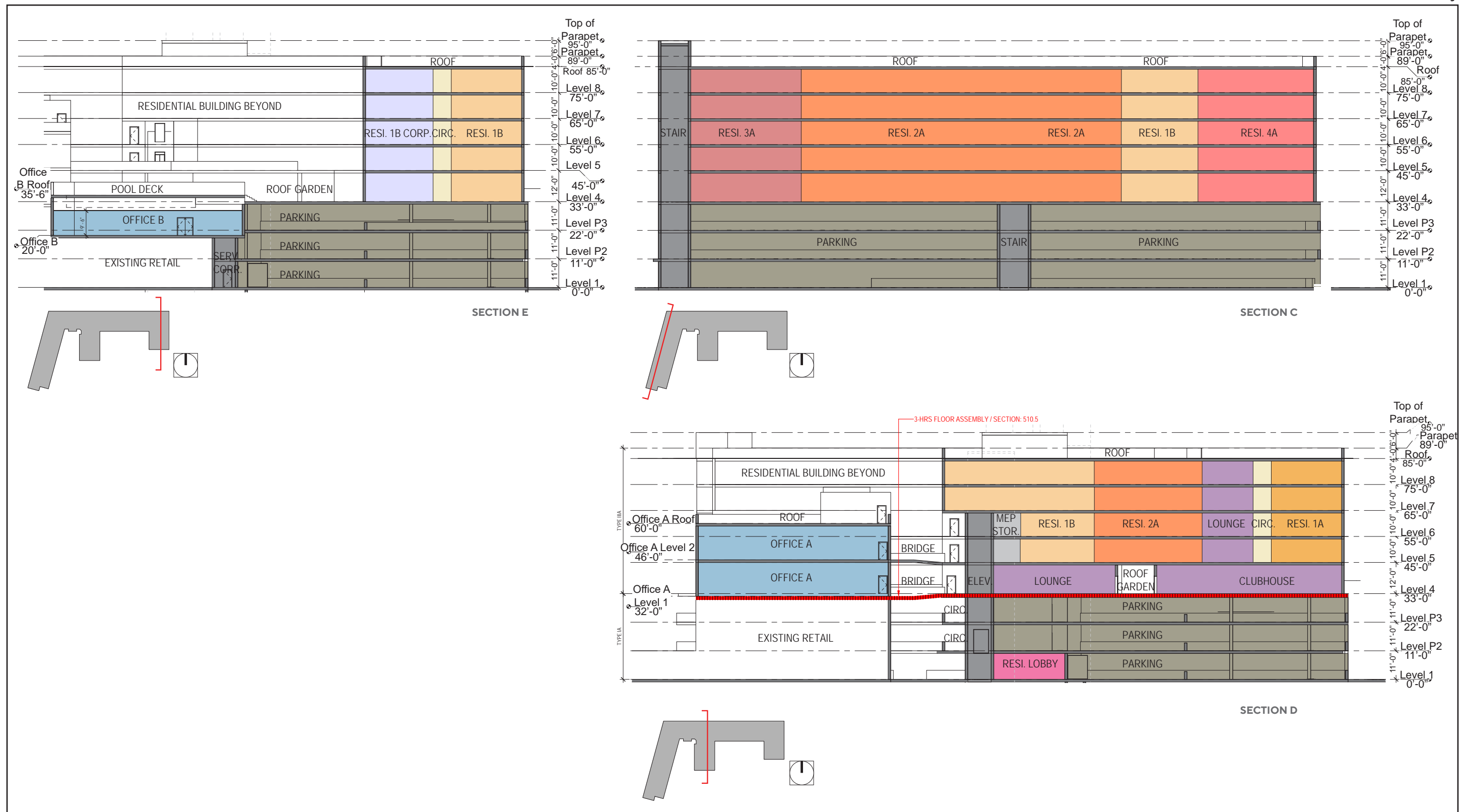


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Figure ES-5b - Conceptual Mixed-Use Building Cross-Section
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1.5.4 Site Access

Vehicular access to the Brea Plaza Shopping Center would continue from the existing driveways:

- Associated Road: Right-turn only and full access driveway
- Imperial Highway: Right-turn only and signalized intersection of Imperial Highway at SR-57 northbound ramps/Brea Plaza

Additionally, a fire lane abuts the northern and western portions of the site.

1.5.4.1 PARKING

There are 739 surface parking spaces at the Brea Plaza Shopping Center. The applicant has a MOU with Mercury Insurance for approximately 180 spaces during business hours and all surface spaces (approximately 500 spaces) after 5:00 pm and on weekends. The proposed project would necessitate removal of 139 surface parking spaces along the western portion of the project site to accommodate the proposed building. A proposed 182,108-square-foot parking structure would accommodate the residential, office, and commercial uses on-site in a three-level parking structure. Table ES-3, *Brea Plaza Surface and Structure Parking*, identifies the number of spaces for the existing conditions and proposed project, not including shared parking with Mercury Insurance; the MOU will expire on April 2026. The proposed project would result in a net increase of 258 parking spaces on-site. The applicant has prepared a shared parking study (see Appendix K) to address the parking needs of the project.

Table ES-3 Brea Plaza Surface and Structure Parking

Type of Parking	Spaces	Square Feet
Existing		
Surface	739	465,700
Total	739	465,700
New		
Surface	-139	-77,382
Structure ²	397	182,108
Total	996	570,426
Net Change	258	104,726

Notes: On-site parking only.

¹ The parking structure includes 10 tandem stalls.

1.5.4.2 BICYCLE STORAGE

The proposed project would provide 108 long-term bicycle parking spaces and 22 short-term bicycle parking spaces in the parking structure.

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1.5.4.3 TRANSPORTATION DEMAND MANAGEMENT MEASURES

The proposed project would include rental cars for the use by apartment residents and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea.

1.5.5 Project Phasing

The proposed project would disturb 2.2 acres of the 16-acre project site. Project construction would be phased over an approximately 24-month period, commencing in mid-2022 and ending in mid-2024, as shown in Table ES-4, *Construction Phasing*. The proposed project would be constructed in phases in order to replace the lost parking spaces as quickly as possible. The first phase involves demolition of the existing theater and 139 surface parking spaces, and immediate construction of the three-level parking structure (all levels would be above-grade levels). The second phase of the project includes construction of the new residential and office structure.

Table ES-4 Construction Phasing

Construction Phase	Description	Approximate Duration	Equipment/ Haul
Demolition	Building demolition and off-site haul	June 2022 to August 2022 2 months	1 – CAT 352 1 – Deere 724L 1 – Peterbilt 4000 1 – Peterbilt 389 1 – MAC Trailer 28FT
	Demolition of asphalt and haul off-site	Aug 2020 20 days	1 – CAT 352 1 – Deere 724L 1 – Peterbilt 4000 1 – Peterbilt 389
Site Preparation	Sitework (soil haul, grading, and rough and fine grading soil haul)	Sept 2022 to October 2022 2 months	1 – CAT 352 1 – Deere 724L 1 – Peterbilt 4000 1 – Deere 210L 1 – Peterbilt 389 1 – CAT CB15
	Utility Trenching	October 2022 10 days	1 – CAT 352 1 – CAT 450 1 – Peterbilt 4000 1 – Deere 724L
Building Construction	Parking Structure Construction	November 2022 to July 2023 8 months	1 – CAT 450 1 – Peterbilt 4000 1 – Mitsubishi FD40NB
	Residential Construction	July 2023 to April 2024 9 months	1 – Mitsubishi FD40NB
Paving	Asphalt Paving	March 2024 11 days	1 – Volvo Blawknex P5170 1 – CAT CB15 1 – CAT CB8 1 – Deere 210L 1 – Peterbilt 4000

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Table ES-4 Construction Phasing

Construction Phase	Description	Approximate Duration	Equipment/ Haul
Architectural Coating	Architectural Coating of Buildings	April 2024 to June 2024 2 months	Not Applicable
Finishing/ Landscaping	Site Finishing and Landscaping	April 2024 to June 2024 2 months	1 – Deere 210L 1 – CAT 450

Note: Construction duration and equipment provided by the Applicant.

1.6 STATEMENT OF OBJECTIVES

Objectives for the Brea Plaza Expansion Project will aid decision makers in their review of the project and associated environmental impacts:

1. Revitalize the site with higher quality amenities by developing housing and office uses near other commercial and residential uses, thereby introducing a newer, high-quality mixed-use environment to the city.
2. Redevelop and invigorate the project site with the spirit and intent of the General Plan vision by developing a mix of uses.
3. Provide additional opportunities for residential growth, including affordable housing, on infill parcels near existing transit stops.
4. Improve the jobs-housing balance in Brea and provide new housing within close proximity to jobs and services.
5. Promote healthy living by providing opportunities to use alternative transportation options available near the site.
6. Provide a free intra-bus transportation system that would include stops at various locations and would reduce traffic and parking, support businesses, and enhance Brea's image as a new hub to work and live.

1.7 SUMMARY OF PROJECT ALTERNATIVES

The CEQA Guidelines (§ 15126.6[a]) state that an EIR must address “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.” The alternatives in this DEIR were based, in part, on their potential to reduce or eliminate the impacts determined to be significant and unavoidable for implementation of the Brea Plaza Expansion project (see Table ES-5, *Summary of Environmental Impacts, Mitigation, and Levels of Significance After Mitigation*). The project alternatives were not reviewed for financial feasibility. Project alternatives are assessed in further detail in Chapter 7, *Alternatives to the Proposed Project*.

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1.7.1 No Project Alternative

The No Project Alternative is required to discuss the existing conditions at the time the notice of preparation is published and evaluate what would reasonably be expected to occur in the foreseeable future if the proposed project is not approved (CEQA Guidelines, Section 15126.6(e)). Pursuant to CEQA, this alternative is based on current plans and consistent with available infrastructure and community services. Therefore, the No Project Alternative assumes that the proposed project would not be adopted, and no development would occur on-site. The project site would remain as the existing Brea Plaza Shopping Center—no demolition would occur, no residential or office development, and no increase in associated residents or decrease in employees.

1.7.1.1 ABILITY TO REDUCE ENVIRONMENTAL IMPACTS

The No Project Alternative would avoid or lessen the proposed project's less-than-significant impacts in the areas of construction-related air quality, cultural and paleontological resources, energy, land use and planning, construction-related noise, public services, recreation, tribal cultural resources, and utilities and service systems. Impacts to aesthetics and operational noise would be similar to the proposed project. This alternative would increase impacts to long-term air quality, construction-related noise, population and housing, and transportation.

The No Project Alternative would retain the site in its current state as the existing Brea Plaza Shopping Center. Therefore, none of the project objectives would be achieved under this alternative. The No Project Alternative would not provide any of the benefits that would accompany implementation of the proposed project, including developing housing and office uses, redeveloping the site according to the General Plan's mixed-use vision, providing opportunities for residential growth near transit stops, improving the jobs-housing balance, promoting healthy living by providing opportunities to use alternative transportation, and providing a free intra-bus transportation system.

1.7.2 Existing Zoning Alternative

The Existing Zoning Alternative would construct the 21,355 square feet of office space, but would not develop the 189 residential units and would not demolish the movie theater. Therefore, a general plan amendment and zone change from General Commercial (C-G) to Mixed Use I (MU-I) would not be required. No parking structure would be provided, and it is assumed parking for the additional office could be accommodated on-site. This alternative, like the proposed project, would add 75 employees for a total of 310 employees on-site, but it would have no residents.

1.7.2.1 ABILITY TO REDUCE ENVIRONMENTAL IMPACTS

The Existing Zoning Alternative would avoid or lessen the proposed project's insignificant impacts in the areas of construction-related air quality, cultural and paleontological resources, energy, land use and planning, construction-related noise, public services, recreation, tribal cultural resources, and utilities and service systems. Impacts to aesthetics and noise would be similar to the proposed project. This Alternative would

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increase impacts to long-term air quality, construction-related noise, population and housing, and transportation. This Alternative would result in a new significant and unavoidable transportation impact.

This Alternative would not develop the residential component of the proposed project. Therefore, this Alternative would not achieve all of the project objectives, including revitalizing the site with residential uses (Objective 1), providing additional housing opportunities near transit (Objective 3), and improving the jobs-housing balance (Objective 4).

1.7.3 Reduced Density Alternative

This Alternative would include both the residential and non-residential (office) components of the proposed project and construction of a parking structure to accommodate the increase in parking for the residential units. However, the Reduced Density Alternative would reduce the residential density on the project site by half, compared to the proposed project. Therefore, this Alternative would result in 94 fewer dwelling units and 162 fewer residents compared to the proposed project. Under the proposed project, the residential density averages to 85.9 units per acre on the 2.2-acre site¹; under this Alternative, the residential density would average to 43 units per acre on the 2.2-acre site.² As a result of the reduced number of residential units, this Alternative assumes that the parking structure square footage and spaces would be half of that identified for the proposed project. This Alternative, like the proposed project, would require demolition of the existing 1,100 seat movie theater and improvements would occur in the same general area of disturbance as the proposed project. The reduction in parking structure square footage coupled with the reduction in residential units onsite would result in a smaller building that is four stories tall.

1.7.3.1 ABILITY TO REDUCE ENVIRONMENTAL IMPACTS

The Reduced Density Alternative would avoid or lessen the proposed project's insignificant impacts in the areas of construction and operational phase air quality, energy, GHG emissions, land use and planning, construction and operational phase noise, public services, recreation, transportation, and utilities and service systems. This Alternative would result in similar impacts to aesthetics, cultural and paleontological resources, and tribal cultural resources. This Alternative would result in greater impacts to population and housing.

This Alternative would result in reduced residential density and height of the proposed project and would include the office component. Therefore, this Alternative would achieve all of the project objectives, but to a lesser extent compared to the proposed project.

¹ The MU-I zone allows density (dwelling units per acre) to be applied across the project site rather than to the individual parcels. Therefore, although the residential density on the 2.2-acre site exceeds 50 units an acre, when averaged across the entire 16-acre site, the residential averages 12 units per acre. This alternative is designed to result in a density of less than 50 units per acre when calculated over the 2.2-acre project expansion area only.

² When average across the entire 16-acre project site, the residential averages 5.94 units per acre.

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1.8 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR address issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. With regard to the proposed project, the major issues to be resolved include decisions by the lead agency as to:

1. Whether this DEIR adequately describes the environmental impacts of the project.
2. Whether the benefits of the project override the environmental impacts that cannot be feasibly avoided or mitigated to a level of insignificance.
3. Whether the proposed land use changes are compatible with the character of the existing area.
4. Whether the identified goals, policies, or mitigation measures should be adopted or modified.
5. Whether there are other mitigation measures that should be applied to the project besides those identified in the DEIR.
6. Whether there are any alternatives to the project that would substantially lessen any of the significant impacts of the proposed project and achieve most of the basic project objectives.

1.9 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. Prior to preparation of the DEIR, the Notice of Preparation (NOP) was distributed for comment from July 27, 2020, to August 26, 2020. An online public scoping meeting was held by the City of Brea on August 12, 2020. A total of 15 agencies/interested parties responded to the NOP, and 14 interested parties provided comments during the scoping meeting. NOP comment letters received during the review period are summarized in Chapter 2, *Introduction* (see Table 2-1, *NOP and Scoping Meeting Comment Summary*), and identify potential environmental issues associated with transportation, public services, aesthetics, noise, population and housing, air quality, land use, hydrology and water quality, cultural resources, and tribal cultural resources.

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

Table ES-5, *Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance After Mitigation*, summarizes the conclusions of the environmental analysis in this EIR. Impacts are identified as significant or less than significant, and mitigation measures are identified for all significant impacts. The level of significance after imposition of the mitigation measures is also presented.

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Table ES-5 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 would not substantially alter visual appearance of the project site.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.1-2: The proposed project would not alter scenic resources within a state scenic highway.	No Impact.	No mitigation measures are required.	No Impact.
Impact 5.1-3: The proposed project would generate additional light and glare.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.2 AIR QUALITY			
Impact 5.2-1: 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 5.2-2: Construction activities associated with the proposed project would generate short-term emissions that exceed South Coast AQMD's threshold criteria.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-3: Long-term operation of the project would not generate additional vehicle trips and associated emissions in exceedance of South Coast AQMD's threshold criteria.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.2-4: Construction activities associated with the proposed project 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: Operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

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Table ES-5 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
Impact 5.2-6: The proposed project would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people).	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.3 CULTURAL AND PALEONTOLOGICAL RESOURCES			
Impact 5.3-1: Development of the project could impact an identified historic resource.	No Impact.	No mitigation measures are required.	No Impact.
Impact 5.3-2: Development of the project could impact archaeological resources.	Potentially Significant.	CUL-1 If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall cease, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find(s). If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted and will be reported to the City.	Less Than Significant Impact.
Impact 5.3-3: Grading activities could potentially disturb human remains, but compliance with existing regulations would ensure that impacts are less than significant.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.3-4: Development of the project could impact paleontological resources or unique geologic features.	Potentially Significant Impact.	CUL-2 Monitoring of mass grading and excavation activities in the areas identified as likely to contain paleontological resources by a qualified paleontologist. A paleontologist shall be on call in the event that paleontological resources are found during ground-disturbing activities. The paleontologist shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossils. The paleontologist shall be empowered to temporarily halt or divert equipment to allow for the removal of abundant or large specimens in a timely manner.	Less Than Significant Impact.

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Table ES-5 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
5.4 ENERGY			
Impact 5.4-1: The proposed project would not result in potentially significant environmental impacts 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 proposed 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.
5.5 GREENHOUSE GAS EMISSIONS			
Impact 5.5-1: Implementation of the proposed project would not generate a net increase in GHG emissions, either directly or indirectly, that would have a significant impact on the environment.	No Impact.	No mitigation measures are required.	No Impact.
Impact 5.5-2: 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.
5.6 LAND USE AND PLANNING			
Impact 5.6-1: Project implementation would not divide an established community.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.6-2: 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.
5.7 NOISE			
Impact 5.7-1: Construction activities would result in temporary noise increases in the vicinity of the proposed project.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

1. Executive Summary

Table ES-5 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
Impact 5.7-2: Project implementation would result in long-term operation-related noise that would not exceed local standards.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.7-3: The project would create short-term groundborne vibration.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.7-4: The proximity of the project site to an airport or airstrip would not result in exposure of future resident or workers to excessive airport-related noise.	No Impact.	No mitigation measures are required.	No Impact.
5.8 POPULATION AND HOUSING			
Impact 5.8-1: The proposed project would directly result in population growth of approximately 405 residents and 49 employees on the project site but would not induce substantial additional growth	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.8-2: Project implementation would not displace people or housing.	No Impact.	No mitigation measures are required.	No Impact.
5.9 PUBLIC SERVICES			
FIRE PROTECTION AND EMERGENCY SERVICES			
Impact 5.9-1: The proposed project would introduce new structures, 405 residents, and 49 employees into the City of Brea Fire Department service boundaries, thereby increasing the requirement for fire protection facilities and personnel	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

1. Executive Summary

Table ES-5 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
POLICE PROTECTION			
Impact 5.9-2: The proposed project would introduce new structures, 405 residents, and 49 employees into the City of Brea Police Department service boundaries, thereby increasing the requirement for police protection facilities and personnel.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
SCHOOL SERVICES			
Impact 5.9-3: The proposed project would generate 57 students who would impact the school enrollment capacities of the Brea Olinda Unified School District.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
LIBRARY SERVICES			
Impact 5.9-4: The proposed project would introduce 405 residents to the project site, which would increase the service needs for the Brea Branch Library.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
5.10 RECREATION			
Impact 5.10-1: The proposed project would generate 325 residents who could increase the use of existing park and recreational facilities.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.10-2: Project implementation would not result in environmental impacts due to the provision of new and/or expanded recreational facilities.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

1. Executive Summary

Table ES-5 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
5.11 TRANSPORTATION			
Impact 5.11-1: The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities	Less Than Significant Impact	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.11-2: The proposed project would not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b), regarding policies to reduce vehicle miles traveled.	Less Than Significant Impact	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.11-3: Project circulation improvements have been incorporated to adequately address potentially hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access.	Less Than Significant Impact	No mitigation measures are required.	Less Than Significant Impact.
5.12 TRIBAL CULTURAL RESOURCES			
Impact 5.12-1: The proposed project would cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency to be significant pursuant to criteria in Public Resources Code Section 5020.1(k).	Potentially Significant Impact.	CUL-1 If cultural resources are encountered during ground disturbing activities, work in the immediate area shall cease and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service) [NPS] 1983 shall be contacted immediately to evaluate the find(s). If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted and will be reported to the City.	Less Than Significant Impact.
		TCR-1 Prior to the commencement of any ground disturbing activity at the project site, the project applicant shall retain a Native American Monitor approved by the Gabrieleno Band of Mission Indians-Kizh Nation—the tribe that consulted on this project pursuant to Assembly Bill 52 (the "Tribe" or the "Consulting Tribe")—and in	

1. Executive Summary

Table ES-5 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
		<p>concurrence with the City of Brea as the CEQA lead agency. A copy of the executed contract shall be submitted to the City of Brea Planning and Building Department prior to the issuance of any permit necessary to commence a ground-disturbing activity.</p> <ul style="list-style-type: none"> The Tribal monitor shall only be present on-site during the construction phases that involve ground-disturbing activities. Ground disturbing activities are defined by the Tribe as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, rading, excavation, drilling, and renching, within the project area. The Tribal Monitor shall complete daily monitoring logs that provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall be concluded when all ground-disturbing activities on the project site are completed, or when the Tribal Representatives and Tribal Monitor have indicated that all upcoming ground-disturbing activities at the project site have little to no potential for impacting Tribal Cultural Resources. <p>TCR-2</p> <p>If tribal cultural resources are inadvertently discovered during ground disturbing activities for this project. The following procedures will be carried out for treatment and disposition of the discoveries:</p> <ul style="list-style-type: none"> Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed. All Tribal Cultural Resources unearthed by project activities shall be evaluated by the qualified archaeologist and Tribal monitor approved by the Consulting Tribe. If the resources 	

1. Executive Summary

Table ES-5 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
		<p>are Native American in origin, the Consulting Tribe will retain it/them in the form and/or manner the Tribe deems appropriate, for educational, cultural and/or historic purposes.</p> <ul style="list-style-type: none"> • If human remains and/or grave goods are discovered or recognized at the Project Site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). • Work may continue on other parts of the Project Site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5(f)). If a non-Native American resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource," time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and PRC Sections 21083.2(b) for unique archaeological resources. • Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes. 	

1. Executive Summary

Table ES-5 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
5.13 UTILITIES AND SERVICE SYSTEMS			
Impact 5.13-1: Project-generated wastewater could be adequately treated by the wastewater service provider for the project.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.13-2: Water supply and delivery systems are adequate to meet project requirements.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.13-3: Existing and/or proposed storm drainage systems are adequate to serve the drainage requirements of the proposed project.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.
Impact 5.13-4: Existing and/or proposed facilities would be able to accommodate project-generated solid waste and comply with related solid waste regulations.	Less Than Significant Impact.	No mitigation measures are required.	Less Than Significant Impact.

1. Executive Summary

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2. Introduction

2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

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 (DEIR) has been prepared to satisfy CEQA and the CEQA Guidelines. The environmental impact report (EIR) is the 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 not found to be significant; and significant cumulative impacts of all past, present, and reasonably foreseeable future projects.

The lead agency means “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 § 21067). The City of Brea has the principal responsibility for approval of the Brea Plaza Expansion project. For this reason, the City of Brea is the CEQA lead agency for this project.

The intent of the DEIR is to provide sufficient information on the potential environmental impacts of the proposed Brea Plaza Expansion to allow the 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*.

This DEIR has been prepared in accordance with requirements of the:

- California Environmental Quality Act (CEQA) of 1970, as amended (Public Resources Code, §§ 21000 et seq.)
- State Guidelines for the Implementation of the CEQA of 1970 (CEQA Guidelines), as amended (California Code of Regulations, §§ 15000 et seq.)

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

2. Introduction

2.2 NOTICE OF PREPARATION PROCESS

The City of Brea determined that an EIR would be required for this project and issued a Notice of Preparation (NOP) on July 27, 2020 (see Appendix 2-1). Comments received during the NOP's public review period, from July 27, 2020, to August 26, 2020, are in Appendix 2-1.

Prior to the preparation of the DEIR, an EIR scoping meeting was held online by the City of Brea on August 12, 2020. Table 2-1, *NOP and Scoping Meeting Comment Summary*, summarizes the issues identified by the commenters during the NOP comment period and scoping meeting. The table provides a brief summary of the comment and a reference to the section(s) of this DEIR where the environmental issue is addressed. A total of 15 agencies/interested parties responded to the NOP, and 13 interested parties provided comments during the scoping meeting. This DEIR has taken those responses into consideration when addressing the environmental issues in Chapter 5 of this DEIR.

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed in Chapter/Section:
Agencies				
Gabrielino Band of Mission Indians – Kizh Nation	7/27/20	Cultural Resources Tribal Cultural Resources	<ul style="list-style-type: none"> The Tribe wishes to consult with the City. 	Section 5.12, <i>Tribal Cultural Resources</i>
Juaneño Band of Mission Indians – Acjachemen Nation	7/28/20	Cultural Resources Tribal Cultural Resources	<ul style="list-style-type: none"> The Tribe wishes to consult with the City. 	Section 5.12, <i>Tribal Cultural Resources</i>
Native American Heritage Commission	7/28/20	Cultural Resources Tribal Cultural Resources	<ul style="list-style-type: none"> Protocol for evaluation of cultural and historic resources. Tribal consultation requirements under Assembly Bill 52 (AB 52) and Senate Bill 18 (SB 18). 	Section 5.12, <i>Tribal Cultural Resources</i>
South Coast Air Quality Management District (South Coast AQMD)	8/25/20	Air Quality	<ul style="list-style-type: none"> Recommends that the lead agency uses South Coast AQMD's CEQA Air Quality Handbook and CalEEMod. Recommends that the lead agency quantifies criteria pollutant emissions and compares the emissions to South Coast AQMD's CEQA regional pollutant emissions significance thresholds. States that the lead agency should identify any potential adverse air quality impacts that could occur from all phases of the proposed project. Recommends performing a mobile source health risk assessment to disclose potential health risks. States that health risk reduction strategies should be incorporated. 	Section 5.2, <i>Air Quality</i>

2. Introduction

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed in Chapter/Section:
City of Fullerton	8/26/20	Transportation	<ul style="list-style-type: none"> ▪ Requests that the following be a part of the analysis: <ul style="list-style-type: none"> ○ City of Fullerton Transportation Assessment Policies and Procedures (TAPP). ○ Detailed description in the traffic study of the co-living units and how trip generation and distribution is determined. ○ An LOS analysis be conducted for the signalized intersections along Imperial Highway from State College through the SR-57 interchange. ○ An LOS assessment of traffic operations along Associated Road and State College between Brea Plaza Shopping Center and California State University Fullerton on a typical pre-COVID-19 weekday when classes are in session. ○ Discuss the potential mitigation measures and/or conditions of approval with the City of Fullerton, should it be determined that the proposed project has a VMT impact and/or an LOS impact. 	Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Analysis</i>
Caltrans	8/26/20 and 9/8/20	Transportation Hydrology and Water Quality	<ul style="list-style-type: none"> ▪ States that impacts to Caltrans facilities should be analyzed using Caltrans' VMT-Focused Transportation Impact Study Guide. ▪ States that a safety analysis approach that reduces risk to all road users is requested. The approach is outlined in Caltrans' Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioner Guidance. ▪ States that access to the project site creates a short weave which needs to be analyzed. ▪ States that Caltrans has updated signage on the off-ramp as motorists were confused, but the proposed development may exacerbate conditions and should be analyzed. ▪ States that per HDM (Index 504.8 Access Control), access rights shall be acquired on the opposite side of the local road from the ramp terminals to preclude driveways or local roads within the ramp intersection. 	Chapter 3, Project Description Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Analysis</i> Chapter 8, <i>Impacts Found Not to be Significant</i>

2. Introduction

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed in Chapter/Section:
			<ul style="list-style-type: none"> ▪ States that active transportation of the proposed project, including the bicycle facilities, should be discussed. ▪ States that coordination should take place with Caltrans on complete streets improvements in the project vicinity. ▪ Recommends the inclusion of secure and functional short- and long-term bicycle parking. ▪ Asks that TDM measures be incorporated to mitigate transportation impacts. ▪ Asks that impending Transportation Impact Study/Assessment be submitted to Caltrans for review and comment, and asks that transportation analysis include Caltrans intersections that may be impacted by the proposed project. ▪ Asks that the DEIR includes a discussion relating to the City's Multimodal Mobility Strategies. ▪ Asks to encourage the use of transit among future residents, visitors, and employees of the proposed project. ▪ Asks that adequate wayfinding signage to transit stops in the project vicinity be provided. ▪ Asks that designated areas/parking for freight delivery be incorporated. ▪ Asks that coordination with Caltrans's project manager and asset manager be made to minimize impacts to the traveling public. ▪ States that Caltrans's NPDES Storm Water Unit would like to see the proposed project's temporary and permanent water quality impacts and any impacts to Caltrans rights-of-way. ▪ States that any project works proposed in the vicinity of the State right-of way will require an encroachment permit, and all environmental concerns must be adequately addressed. ▪ Asks if there is a permit for the driveway along Imperial Highway (across the northbound SR-57 off-ramp). 	

2. Introduction

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed in Chapter/Section:
OCTA	8/26/20	Transportation	<ul style="list-style-type: none"> States that OCTA requires LOS analysis to monitor Congestion Management Program (CMP) highway system (HS) performance, per the CMP traffic impact analysis requirements. States that SR-90 is part of the CMPHS, and Imperial Highway/northbound ramps, Imperial Highway/southbound ramps, and SR-90/State College Boulevard intersections are CMP intersection. This roadway and these intersections should be analyzed for any potential traffic impacts, consistent with the Orange County CMP. 	Section 5.11, <i>Transportation</i>
Public				
Lozeau Drury (on behalf of SAFER)	7/29/20	Noticing	<ul style="list-style-type: none"> The firm wishes to be included for all notifications pertaining to the proposed project. 	N/A
Brea Glenbrook Homeowners Association	8/7/20	School Transportation	<ul style="list-style-type: none"> Concerned with lack of existing and proposed parking to meet needs of existing and proposed conditions. Additional congestion on Greenbriar Lane, Ravencrest Drive, and Castlegate Lane—this is an existing issue due to Mercury Insurance employees using this route to bypass congestion on Associated Road and Imperial Highway. Concerned with school capacity—existing schools feel overcrowded. 	Section 5.9, <i>Public Services</i> Section 5.10, <i>Recreation</i> Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Assessment</i>
Thomas Kwan	8/12/20	Air Quality Land Use Population and Housing Transportation	<ul style="list-style-type: none"> States that the higher density structure will result in additional air quality burdens compared to the current zoning. States that the proposed residents and hotel guests would be within 100 feet of the freeway, and in addition to the freeway, the project site is in close proximity to major arterials, which could expose residents to higher concentrations of air pollutants. Asks why the General Plan should be amended to allow residential uses in a commercial zone. States that the disruption of orderly development in Brea would have adverse effects on the quality of life. 	Section 5.2, <i>Air Quality</i> Section 5.6, <i>Land Use and Planning, and Appendix K, Parking Study</i> Section 5.8, <i>Population and Housing</i> Section 5.9, <i>Public Services</i> Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Analysis</i>

2. Introduction

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed in Chapter/Section:
			<ul style="list-style-type: none"> States that the proposed project would add too many housing units to the site. Asks how public services will be funded in the long term, and states that additional public services would be needed to accommodate the proposed project. Asks if there will be affordable housing. States that it is unlikely that commute times would be reduced as the cost of housing in Brea is too high. States that the traffic impact would be significant, similar to the Mercury Lane project. States that the number of parking spaces for the proposed project is insufficient and will cause overflow parking on nearby streets. 	
Anastas Hatjygeorge	8/12/20	Transportation Schools	<ul style="list-style-type: none"> States that the proposed project should include more parking spaces. States that cumulative impacts should be assessed after occupation of Birch/State College Project. States schools are overcrowded, and developers should pay to construct new schools. 	Section 5.9, <i>Public Services</i> Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Analysis</i>
Susan Perlson	8/19/20	Housing	<ul style="list-style-type: none"> Hopes that the proposed project addresses low-income/affordable housing. Concerned about location of housing units near freeway, which can contribute to poor air quality. States that mitigation with trees and a sound wall are needed. Concerned with demolishing the only lower-cost movie theater in Brea that offers affordable entertainment options. 	Chapter 3, Project Description Section 5.2, <i>Air Quality</i> Section 5.8, <i>Population and Housing</i>
Richard and Susan Kilpatrick	8/22/20	Transportation	<ul style="list-style-type: none"> States that existing and proposed residents would compete for parking spaces at the project site, which would result in more congestion. States that the proposed developments in the area would further increase congestion. 	Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Analysis</i> Section 5.6, Land Use and Planning, and Appendix K, Parking Study
Babok Robinson (on behalf of Mercury Insurance)	8/25/20	Transportation	<ul style="list-style-type: none"> States that Mercury Insurance does not believe the NOP accurately reflects the parking rights the project applicant maintains on the Mercury Property, and states that it is more limited. States that any parking rights in existence is for a limited duration (approximately another six years). 	Chapter 3, Project Description Section 5.11, <i>Transportation</i> Section 5.6, Land Use and Planning, and Appendix K, Parking Study

2. Introduction

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed in Chapter/Section:
Mitchell M. Tsai (on behalf of Southwest Regional Council of Carpenters)	8/26/20	Notification COVID-19 practices	<ul style="list-style-type: none"> Requests to be notified. States that the City should require the applicant to provide additional community benefits such as requiring local hire and paying prevailing wages to benefit the city. States that due to COVID-19, the City must adopt a Mandatory Finding of Significance that the project may cause a substantial adverse effect on human beings and mitigate COVID-19 impacts. Recommends that the City require that construction site design, COVID-19 testing procedures, and COVID-19 planning practices be implemented during construction. 	Not applicable.
Scoping Meeting				
Mary	8/12/20	Transportation	<ul style="list-style-type: none"> Asked if movie theater and Buca di Beppo would be demolished to accommodate proposed project. Stated that congestion and parking at the shopping center would be an issue. 	Chapter 3, Project Description Section 5.11, <i>Transportation</i> Section 5.6, <i>Land Use and Planning, and Appendix K, Parking Study</i>
Frank Morrow	8/12/20	Transportation	<ul style="list-style-type: none"> Request that traffic study analyze northbound at SR-57, Associated Road and Imperial Highway, and Associated Road and Greenbriar Lane. Increased traffic will make it difficult to exit shopping center on Associated Road near Mother's Market. 	Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Assessment</i>
Kevin Campion	8/12/20	Transportation	<ul style="list-style-type: none"> North of Mercury Insurance, the 215 homes will be impacted and make it difficult to exit. There may need to be a traffic signal at Birch Street. Very congested to exit. 	Section 5.11, <i>Transportation, and Appendix J2, Circulation Assessment</i>
Riley Keller	8/12/20	Transportation	<ul style="list-style-type: none"> Request that traffic study analyze northbound at SR-57, Associated Road and Imperial Highway, and Associated Road and Greenbriar Lane. Increased traffic will make it difficult to exit shopping center on Associated Road near Mother's Market. Active transportation solutions for local traffic as mitigation. Tracks to Trail connectivity. 	Section 5.11, <i>Transportation, and Appendix J2</i>

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Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed in Chapter/Section:
Donald Minck	8/12/20	Transportation Noise	<ul style="list-style-type: none"> Plum Avenue and Glenbrook are congested and it is hard to pull out onto Birch Street. It is difficult to exit on Redbay Avenue and make a left turn. Requests a sound wall along Birch to reduce traffic noise. Signalize Redbay and Birch. Parking at the shopping center. 	Section 5.7, <i>Noise</i> Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Assessment</i> Section 5.6, <i>Land Use and Planning, and Appendix K, Parking Study</i>
Eric Small	8/12/20	Transportation School	<ul style="list-style-type: none"> Traffic backs up on freeway, making it hard to get out on Imperial. Illegal right turn on red from shopping center. There are three ways into the shopping center, and all are congested. Asks where students will go to school; junior high school is full. Asks how delivery access would occur. Glenbrook residents cannot get onto street. 	Chapter 3, Project Description Section 5.9, <i>Public Services</i> Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Assessment</i>
Arthur Rubin	8/12/20	Aesthetics Transportation	<ul style="list-style-type: none"> Asks if satellite dishes will be in line of sight, specifically view south of Greenbriar, and if building height would interfere with cable services. Has concerns about parking and traffic. 	Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Assessment</i> Section 5.6, <i>Land Use and Planning, and Appendix K, Parking Study</i>
Clarice DaFonseca	8/12/20	Transportation	<ul style="list-style-type: none"> Local business impacted if too congested. There are three access points; only one option for eastbound direction. Not enough parking for number of units/rooms; guests will park in neighborhood. Cumulative traffic from Brea Mall during Holidays causes additional congestion. 	Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Assessment</i> Section 5.6, <i>Land Use and Planning, and Appendix K, Parking Study</i>
Lisa Vargas	8/12/20	Transportation	<ul style="list-style-type: none"> Cumulative traffic of Hines project on the Glenbrook neighborhood. Requests a transportation option be added to the project. Parking study needed and add parking spaces. States that new developments have impact on cost of housing and they can change the shopping/economic habits of residents. 	Chapter 3, Project Description Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Assessment</i> Section 5.6, <i>Land Use and Planning, and Appendix K, Parking Study</i>

2. Introduction

Table 2-1 NOP and Scoping Meeting Comment Summary

Commenting Agency/Person	Date	Comment Topic	Comment Summary	Issue Addressed in Chapter/Section:
Ted Gribble	8/12/20	Transportation School	<ul style="list-style-type: none"> Traffic in neighborhood uses surface lot to bypass intersection at Imperial Highway and Associated Road. Asks how are impacts to schools evaluated. Requests a parking study. 	Section 5.9, <i>Public Services</i> Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation Assessment</i> Section 5.6, <i>Land Use and Planning, and Appendix K, Parking Study</i>
Mr. and Mrs. Steffensen	8/12/20	Transportation	<ul style="list-style-type: none"> Concerns about putting hotel and apartment near residential neighborhood and neighborhood character. Movie theater was never full, and it was still difficult to find parking. Driving to school increases AM peak hour. Visitors use neighborhood to park when parking lot is full. 	Section 5.1, <i>Aesthetics</i> Section 5.6, <i>Land Use and Planning</i> Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation</i>
Martha Castillo	8/12/20	Transportation	<ul style="list-style-type: none"> Traffic is congested. Difficult to make a right turn onto Imperial because traffic backs up. Cumulative traffic from Brea Mall during Holidays causes additional congestion. Vehicles on Imperial westbound-cut through the neighborhood on Castlegate. Add speed bumps. People drive too fast. More children on bikes. Concerns about putting hotel and apartment near residential neighborhood and neighborhood character and property values. 	Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation</i>
Kim	8/12/20	Transportation	<ul style="list-style-type: none"> Reduced traffic during pandemic; however, traffic is still bad. 	Section 5.11, <i>Transportation, and Appendix J2, Traffic Circulation</i>

2.3 SCOPE OF THIS DEIR

The NOP process helps determine the scope of the environmental issues to be addressed in the DEIR. Based on this process, certain environmental categories were identified as having the potential to result in significant impacts, and these categories can be found in Chapter 5, *Environmental Analysis*, in this DEIR. Pursuant to Sections 15126.2 and 15126.4 of the CEQA Guidelines, the DEIR 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. Introduction

2.3.1 Impacts Considered Less Than Significant

The City of Brea determined that seven environmental impact categories were not significantly affected by or did not affect the proposed project. These categories are evaluated in Chapter 8, *Impacts Found Not to Be Significant*.

- Agriculture and Forestry Resources
- Biological Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Wildfires

The following environmental impact categories were determined to have less than significant impacts in Chapter 5, *Environmental Impacts*.

- Aesthetics
- Air Quality
- Energy
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Utilities and Service Systems

2.3.2 Potentially Significant Adverse Impacts

The City of Brea determined that two environmental factors have potentially significant impacts if the proposed project is implemented. These are evaluated in Chapter 5, *Environmental Impacts*.

- Cultural and Paleontological Resources
- Tribal Cultural Resources

As discussed in Chapter 5, *Environmental Impacts*, all impacts were found to be less than significant with the exception of Cultural and Tribal Cultural Resources, which require mitigation measures to reduce impacts to a less than significant level. The EIR found no significant and unavoidable impacts.

2. Introduction

2.3.3 Unavoidable Significant Adverse Impacts

This EIR did not identify any significant and unavoidable impacts.

2.4 INCORPORATION BY REFERENCE

Some documents are incorporated by reference into this DEIR, consistent with Section 15150 of the CEQA Guidelines, and they are available for review at the City of Brea.

- **City of Brea General Plan (2003).** The City of Brea General Plan serves as the major tool for directing growth in Brea and presents a comprehensive plan to accommodate the city's growing needs. The General Plan analyzes existing conditions in the city, including physical, social, cultural, and environmental resources and opportunities. The General Plan also looks at trends, issues, and concerns that affect the region; includes city goals and objectives; and provides policies to guide development and change. Where applicable, chapters and figures of the General Plan are referenced throughout this DEIR.
- **City of Brea Municipal Code (Updated 2019).** The municipal code identifies land use categories, development standards, and other general provisions that ensure consistency between the General Plan and proposed development projects. Where applicable, chapters and sections of the municipal code are referenced and explained throughout this DEIR.

2.5 FINAL EIR CERTIFICATION

This DEIR is being circulated for public review for 45 days. Interested agencies and members of the public are invited to provide written comments on the DEIR to the City address shown on the title page of this document. Upon completion of the 45-day review period, the City of Brea will review all written comments received and prepare written responses for each. A Final EIR (FEIR) will incorporate the received comments, responses to the comments, and any changes to the DEIR that result from comments. The FEIR will be presented to the Planning Commission for review and recommendation regarding certification, and then to the City Council for potential certification as the environmental document for this project. All persons who comment on the DEIR will be notified of the availability of the FEIR and the date of the public hearing before the City.

The DEIR is available to the general public for review at various locations:

- City of Brea Planning Division, 1 Civic Center Circle, Level 3, Brea, CA 92821
- Brea Library, 1 Civic Center Circle, Level 1, Brea, CA 92821
- City of Brea website: www.cityofbrea.net/projectsinprocess

2.6 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 or adopted a

2. Introduction

Negative Declaration pursuant to 21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration.

The draft Mitigation Monitoring Program for the Brea Plaza Expansion Project will be included as Appendix B to this DEIR.

3. Project Description

The Brea Plaza Shopping Center encompasses approximately 16 acres in northern Orange County and has 165,329 square feet of commercial uses. The Brea Plaza Expansion Project (proposed project) is a mixed-use project that would result in demolition of the existing 1,100-seat theater and 139 surface parking spaces, and the subsequent development of a new five-story structure with 189 residential units (including co-living units¹) and an amenity deck with a rooftop garden; 21,355 square feet of co-working office space; and a 182,108-square-foot parking garage on 2.2 acres in the northwestern portion of the Brea Plaza Shopping Center site. The proposed project would result in a net increase of 189 residential units, and a net decrease of 2,905 square feet of commercial space. Approval of the project would require a general plan amendment (GPA) and zone change from Commercial to Mixed Use I and the applicant would submit a request for a development agreement. Since the circulation of the Notice of Preparation (NOP) and Scoping Meeting, the proposed project has been revised to eliminate the hotel component, reduce the number of residential units, and increase the amount of parking provided.

3.1 PROJECT LOCATION

The City of Brea is bordered by the cities of La Habra to the northwest; Fullerton to the southwest and south; Placentia to the south; Yorba Linda to the southeast and east; unincorporated Orange County to the east, northeast, and north; Chino Hills (San Bernardino County) to the northeast; and unincorporated Los Angeles County to the northwest (see Figure 3-1, *Regional Location*).

The Brea Plaza Shopping Center—1639 East Imperial Highway—encompasses approximately 16 acres in the City of Brea. The Brea Plaza Shopping Center is east of State Route (SR-57) and is generally bounded by the Mercury Insurance office development to the north, South Associated Road and a single-family residential neighborhood to the east, Imperial Highway/SR-90 and commercial development in Fullerton to the south, and SR-57 to the west. Figure 3-1, *Regional Location*, and Figure 3-2, *Local Vicinity*, show the project site within the regional and local contexts of Orange County and the City of Brea, respectively. The proposed project would be on 2.2 acres in the northwest portion of the project site, as shown in Figure 3-2.

3.2 ENVIRONMENTAL SETTING

3.2.1 Existing Land Use

An aerial photograph of the Brea Plaza Shopping Center is shown on Figure 3-3, *Aerial Photograph*. Based on a review of historical aerial photographs, the Brea Plaza Shopping Center began operations in the early 1980s.

¹ The intent of the co-living units is to be occupied by individual residents; however, if market demands change, these co-living units could be occupied by families.

3. Project Description

As shown in Table 3-1, *Existing Brea Plaza Shopping Center Land Use Summary*, the Brea Plaza Shopping Center is developed with 165,329 square feet of commercial space and includes a mix of tenants, including Mother's Market (north side), Buca di Beppo (west side), Lucille's Smokehouse Bar-B-Que (south side), Chick-fil-A (south side), Friar Tux (northeast side), Total Wine and More (west side), Custom Comfort Mattress (northwest side), Grand Salon (west side), and Brea Plaza 5 Cinemas (northwest side).

Table 3-1 Existing Brea Plaza Shopping Center Land Use Summary

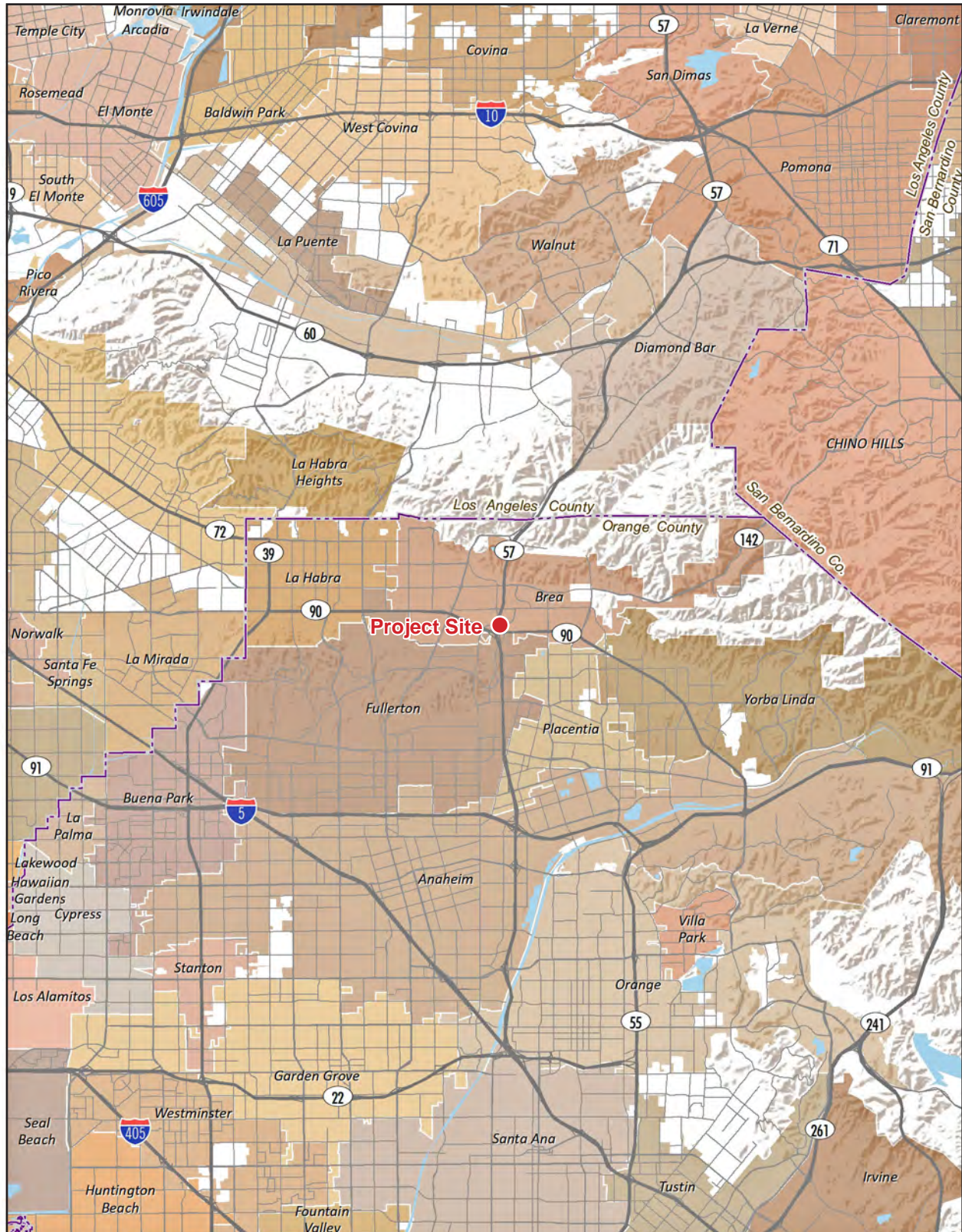
Tenant	Square Footage
Brea Plaza 5 Cinemas (1,100 Seats)	18,450
Retail	68,415
Dentist Office	1,596
Restaurant	42,649
Grocery Store	16,206
Liquor Store	18,013
Total	165,329
Parking Lot (748 Spaces) /Driveways	465,700

There are 739 parking spaces in the Brea Plaza Shopping Center. Additionally, the applicant has an agreement with Mercury Insurance for approximately 180 spaces during business hours, and all surface spaces (approximately 500 spaces) after 5:00 pm and on weekends; the memorandum of understanding (MOU) that provides details on the agreement will expire in April 2026, and the project applicant will be required to accommodate parking on the project site. Vehicular access to Brea Plaza Shopping Center is provided via a dedicated left turn only lane on northbound Associated Road and dedicated a right-turn only lane on southbound Associated Road and a full access driveway on Associated Road, and a right-turn only on Imperial Highway, plus the signalized intersection of Imperial Highway at SR-57 northbound (NB) ramps/Brea Plaza.

3.2.2 Surrounding Land Use

The project site is at the confluence of SR-57 and Imperial Highway northbound ramps (see Figure 3-3). SR-57 divides the Brea Plaza Shopping Center from the land uses further west of the project site, including the Brea Mall, other commercial uses, and the Craig Regional Park to the southwest. The project site is directly surrounded by commercial and residential uses to the west of SR-57. The northern portion of the project site is bounded by Mercury Insurance corporate campus, which includes Mercury Insurance's office building, parking structure, and parking lot. North of the Mercury Insurance campus and Greenbriar Lane are single-family residential uses and Greenbriar Park. To the east of the project site, across South Associated Road, is a single-family residential neighborhood. Directly south of Imperial Highway are commercial and retail uses (Circle K gas station and car wash, Arco gas station, 7-Eleven, Wendy's, Patio Furniture Plus, Dolce Hair and Nails) and the North Fullerton Kindercare daycare facility farther to the south. Residential uses are also southeast of the intersection of Associated Road and Imperial Highway and the Southern California Edison (SCE) electrical substation.

Figure 3-1 - Regional Location
3. Project Description



Note: Unincorporated county areas are shown in white.

Source: ESRI, 2020

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Scale (Miles)

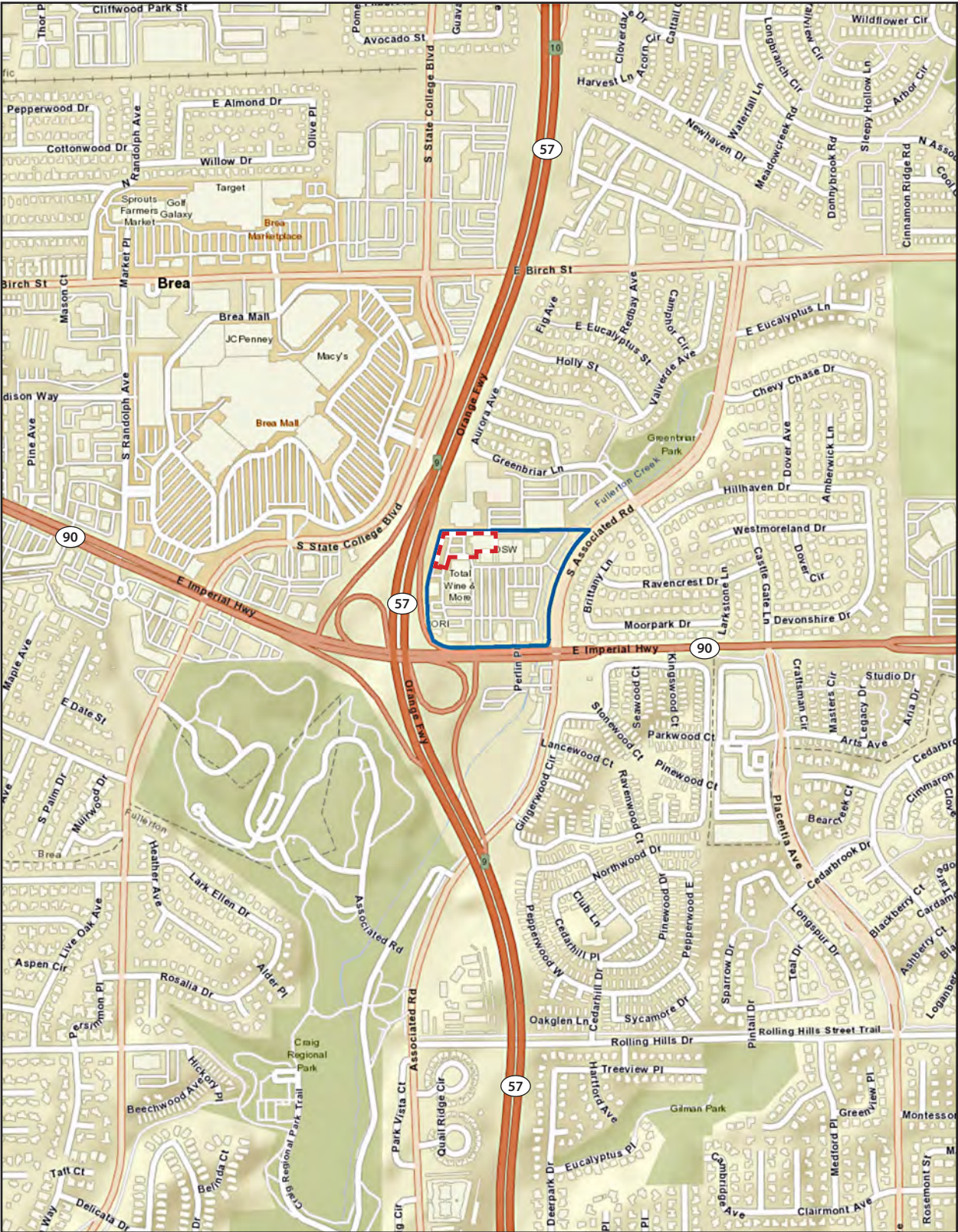


PlaceWorks

3. Project Description

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Figure 3-2 - Local Vicinity
3. Project Description



--- Area of Disturbance
— Project Boundary

Source: ESRI, 2020

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Scale (Feet)



3. Project Description

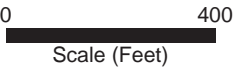
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Figure 3-3 - Aerial Photograph
3. Project Description



--- Area of Disturbance
— Project Boundary

Source: Nearmap, 2020



3. Project Description

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3. Project Description

3.3 STATEMENT OF OBJECTIVES

Objectives for the Brea Plaza Expansion Project will aid decision makers in their review of the project and associated environmental impacts:

1. Revitalize the site with higher quality amenities by developing housing and office uses near other commercial and residential uses, thereby introducing a newer, high-quality mixed-use environment to the city.
2. Redevelop and invigorate the project site with the spirit and intent of the General Plan vision by developing a mix of uses.
3. Provide additional opportunities for residential growth, including affordable housing, on infill parcels near existing transit stops.
4. Improve the jobs-housing balance in Brea and provide new housing within close proximity to jobs and services.
5. Promote healthy living by providing opportunities to use alternative transportation options available near the site.
6. Provide a free intra-bus transportation system that would include stops at various locations and would reduce traffic and parking, support businesses, and enhance Brea's image as a new hub to work and live.

3.4 PROJECT DESCRIPTION

Figure 3-4, *Conceptual Site Plan*, shows the overall conceptual site plan for Brea Plaza Shopping Center. Figures 3-5a and 3-5b, *Conceptual Mixed-Use Building Cross-Section*, illustrate the cross-sectional views of the proposed mixed-use building. The proposed project would require the demolition of the 18,450-square-foot Brea Plaza 5 Cinemas (1,110 seats) and 139 surface parking spaces, and subsequent development of a new building on approximately 2.2 acres in the northwestern portion of the 16-acre Brea Plaza Shopping Center site. Table 3-2, *Brea Plaza Expansion Project Land Use Summary*, identifies the existing and proposed improvements.

3. Project Description

Table 3-2 Brea Plaza Expansion Project Land Use Summary

Tenant	Existing (square feet)	Demolition (square feet)	New Construction		Total Site	
			Units or Rooms or Spaces	Square Feet	Units or Rooms or Spaces	Square Feet
Residential						
Residential	—	—	189 ¹	222,447 ²	189	222,447
Commercial						
Office	—	—	—	21,355 ³	—	21,355
Medical Office	1,596	—	—	—	—	1,596
Restaurants	42,649	—	—	—	—	42,649
1,100 Seat Movie Theater	18,450	18,450	—	—	—	0
Grocery Store	16,206	—	—	—	—	16,206
Retail	68,415	—	—	—	—	68,415
Liquor Store	18,013	—	—	—	—	18,013
Subtotal Commercial	165,329	18,450	—	21,355	—	168,234
Parking						
3-Level Parking Structure (L1, P2, P3)	—	—	397 spaces ⁴	182,108	397 spaces	182,108
Surface Parking	739 spaces ⁵ 465,700	139 spaces 77,382	—	—	600 spaces	388,318
Total	165,329	18,450	189 units 397 spaces	222,447	189 units	570,426
Net Change	189 residential units; -2,905 commercial square feet; 258 parking spaces					

Notes: L1 = Level 1; P2 = Level 2; P3 = Level 3

¹ Co-living bedrooms are not counted as individual apartments. If the co-living unit bedrooms were counted as individual units, then the total apartment count goes to 229.

² The residential square footage does not include the amenity deck; with the amenity deck, the total residential building square footage would be 445,871 square feet.

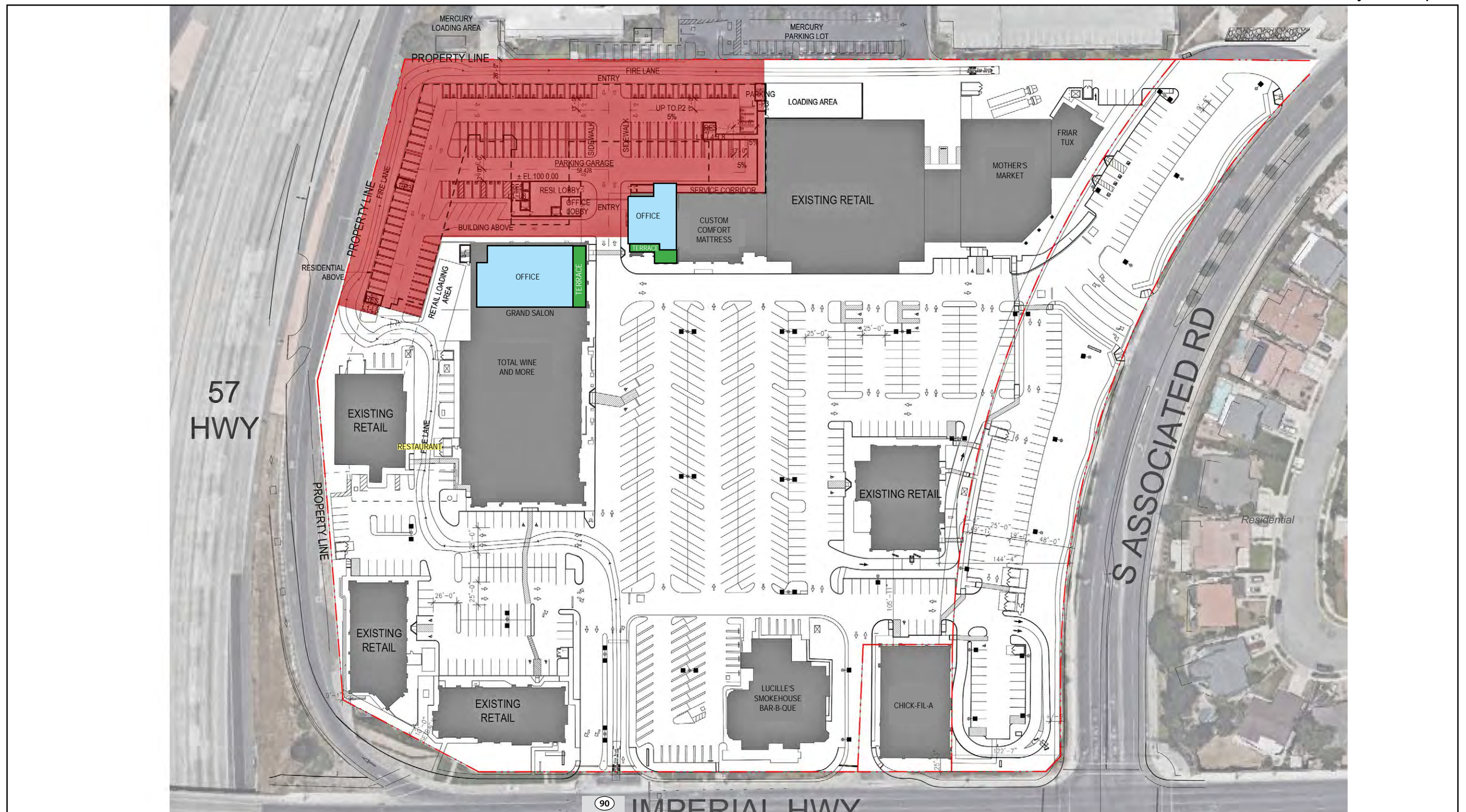
³ The office building includes 18,147 square feet of leasable space; the outdoor terrace (2,115 square feet) is not included in the total square footage.

⁴ The parking structure will include 10 tandem stalls for a total of 397 new parking spaces.

⁵ There are a total of 739 stalls on the 16-acre site plus an additional 180 spaces during business hours and all surface spaces after 5:00 pm and on weekends (roughly 500) through a memorandum of understanding with Mercury Insurance, which is effective through April 2026.

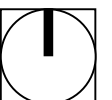
The proposed building would include a five-story apartment and office building above a three-story parking structure (eight stories total). The proposed project would include a 222,447-square-foot apartment building with 189 units; a 21,355-square-foot co-working office (approximately 4,000 square feet above Custom Comfort Mattress and approximately 8,000 square feet above Grand Salon); and a parking structure (three above-grade levels under the residential building) with up to 397 parking spaces. The proposed project would require a GPA, a zone change from General Commercial (C-G) to Mixed Use I; the applicant would submit a request for a development agreement. The proposed project would result in a net decrease of 2,905 square feet of commercial space and a net increase of 189 residential units at the 16-acre Brea Plaza Shopping Center.

Figure 3-4 - Conceptual Site Plan
3. Project Description



Area of Disturbance

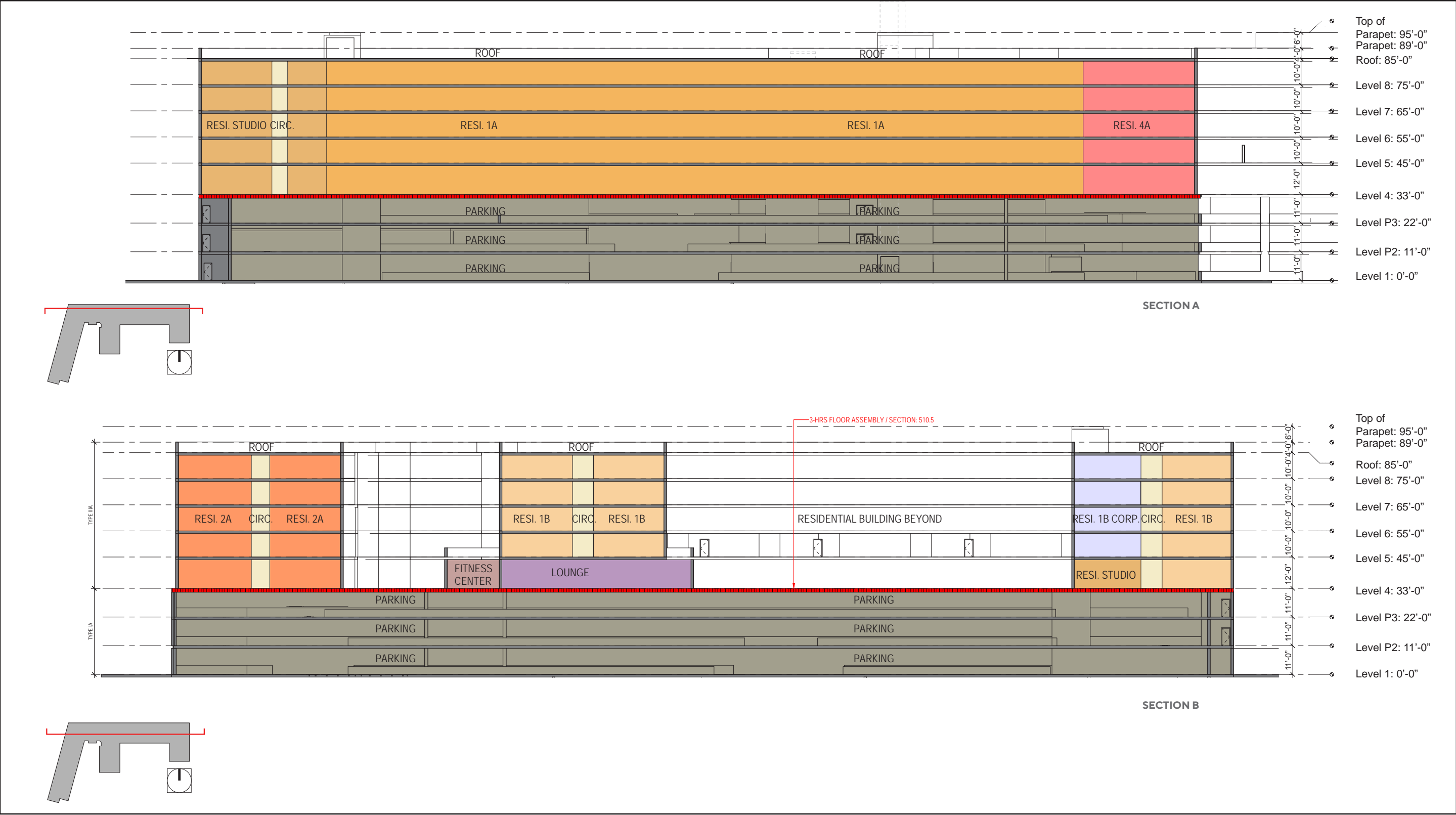
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3. Project Description

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Figure 3-5a - Conceptual Mixed-Use Building Cross-Section
3. Project Description

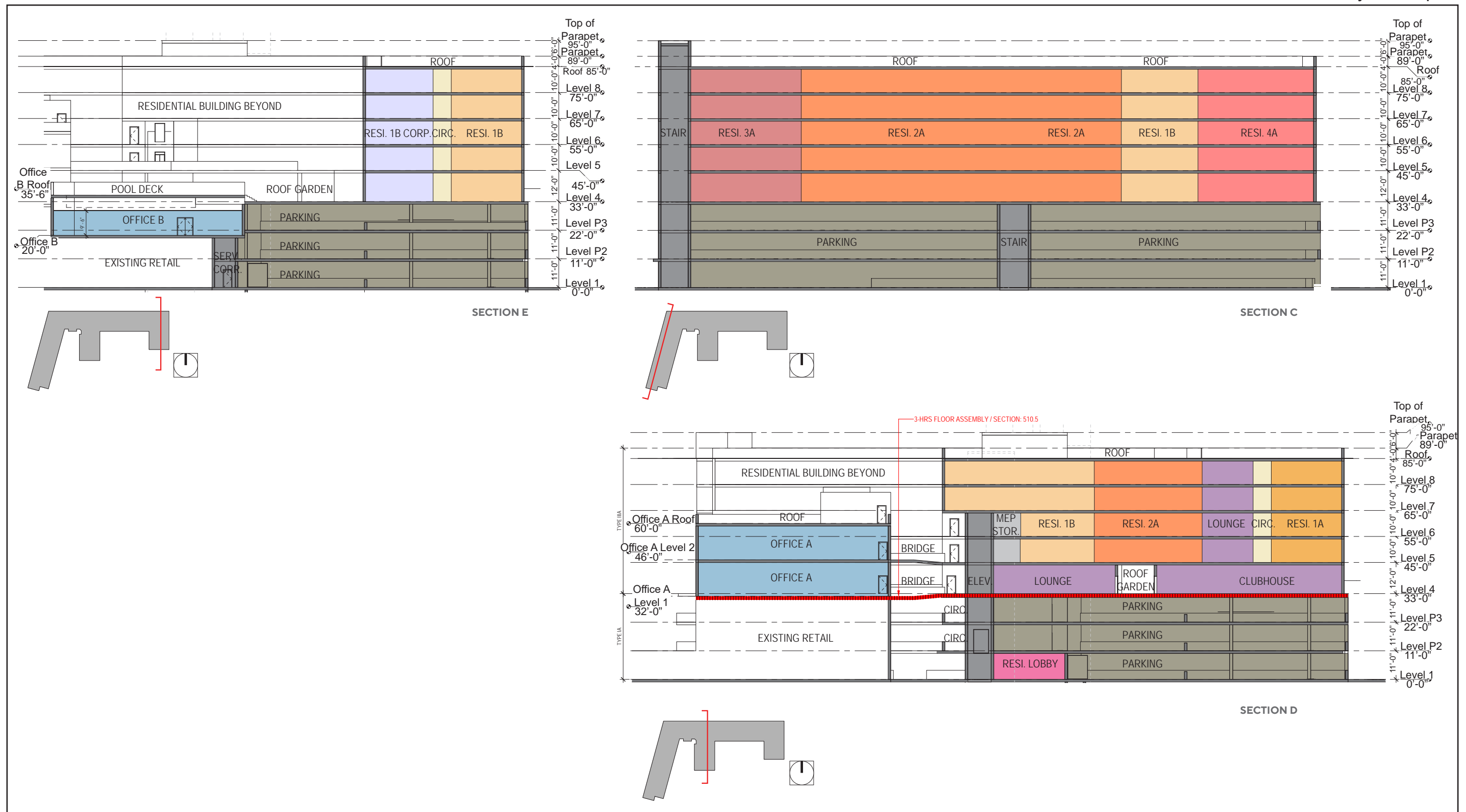


Source: Architects Orange, 2021

3. Project Description

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Figure 3-5b - Conceptual Mixed-Use Building Cross-Section
3. Project Description



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3. Project Description

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3. Project Description

3.4.1 Residential Component

The residential component of the project would result in a five-story structure situated atop a three-story parking structure, resulting in an eight-story building along the northern and northwestern portion of the project site. Table 3-3, *Residential Unit Summary*, provides a breakdown of the unit type for the proposed mixed-use residential development. The proposed residential building would include a rooftop garden on an amenity deck. The residential units would include studio and 1-bedroom to 4-bedroom co-living apartments, including affordable units. Additionally, a portion of the proposed apartments would be used for extended stays to service corporate clients (e.g., Mercury Insurance).

Table 3-3 Residential Unit Summary

Type of Unit	Number of Dwelling Units ¹
Studio Units	16
One-Bedroom Units	109
Two-Bedroom Units	44
Three-Bedroom Units ²	10
Four-Bedroom Units ³	10
Total Units	189
Residential Square Feet	222,447

¹ Co-living bedrooms are not counted as individual apartments. If the co-living-unit bedrooms were counted as individual units, the total apartment count goes to 229.

² Five of the ten 3-bedroom units would be co-living units.

³ All of the ten 4-bedroom units would be co-living units.

3.4.2 Office Component

As shown in Figure 3-5b, the eastern and central portions of the proposed building would be five stories atop a parking garage and would include the 21,355-square-foot co-working office (approximately 4,000 square feet of building area above Custom Comfort Mattress and approximately 8,000 square feet of building area above Grand Salon). The office component would include a terrace.

3.4.2.1 OPERATIONS

The office building hours would primarily be during the weekday from 8:30 am to 5:00 pm.

3.4.3 Signage Program

The proposed project includes digital signage for Brea Plaza on the southern façade of the five-story structure.

3. Project Description

3.4.4 Building Elevations

Figures 3-6a and 3-6b, *Building Elevation*, show the design for the proposed mixed-use building. The exterior of the building would consist of stucco painted white, light and dark gray, and light beige; wood siding and metal panels; and metal and glass railings. The building would be 89 feet tall at the top of the parapet.²

3.4.5 Site Access

Vehicular access to the Brea Plaza Shopping Center would continue from the existing driveways:

- Associated Road: Right-turn only (northbound), left-turn only (southbound), and full access driveway
- Imperial Highway: Right-turn only and signalized intersection of Imperial Highway at SR-57 NB ramps / Brea Plaza.

Additionally, a fire lane would bound the northern and western portions of the site.

3.4.5.1 PARKING

There are 739 surface parking spaces at the Brea Plaza Shopping Center. The applicant has an MOU with Mercury Insurance for approximately 180 spaces during business hours, and all surface spaces (approximately 500 spaces) after 5:00 pm and on weekends. A proposed 182,108-square-foot parking structure would accommodate the residential, office, and commercial uses on-site in a three-level parking structure. Table 3-4, *Brea Plaza Surface and Structure Parking*, identifies the number of spaces for the existing conditions and proposed project, not including shared parking with Mercury Insurance since the MOU will expire in April 2026. The proposed project would result in a net increase of 258 parking spaces on-site. The applicant has prepared a shared parking study (see Appendix K) to address the parking needs of the project.

Table 3-4 Brea Plaza Surface and Structure Parking

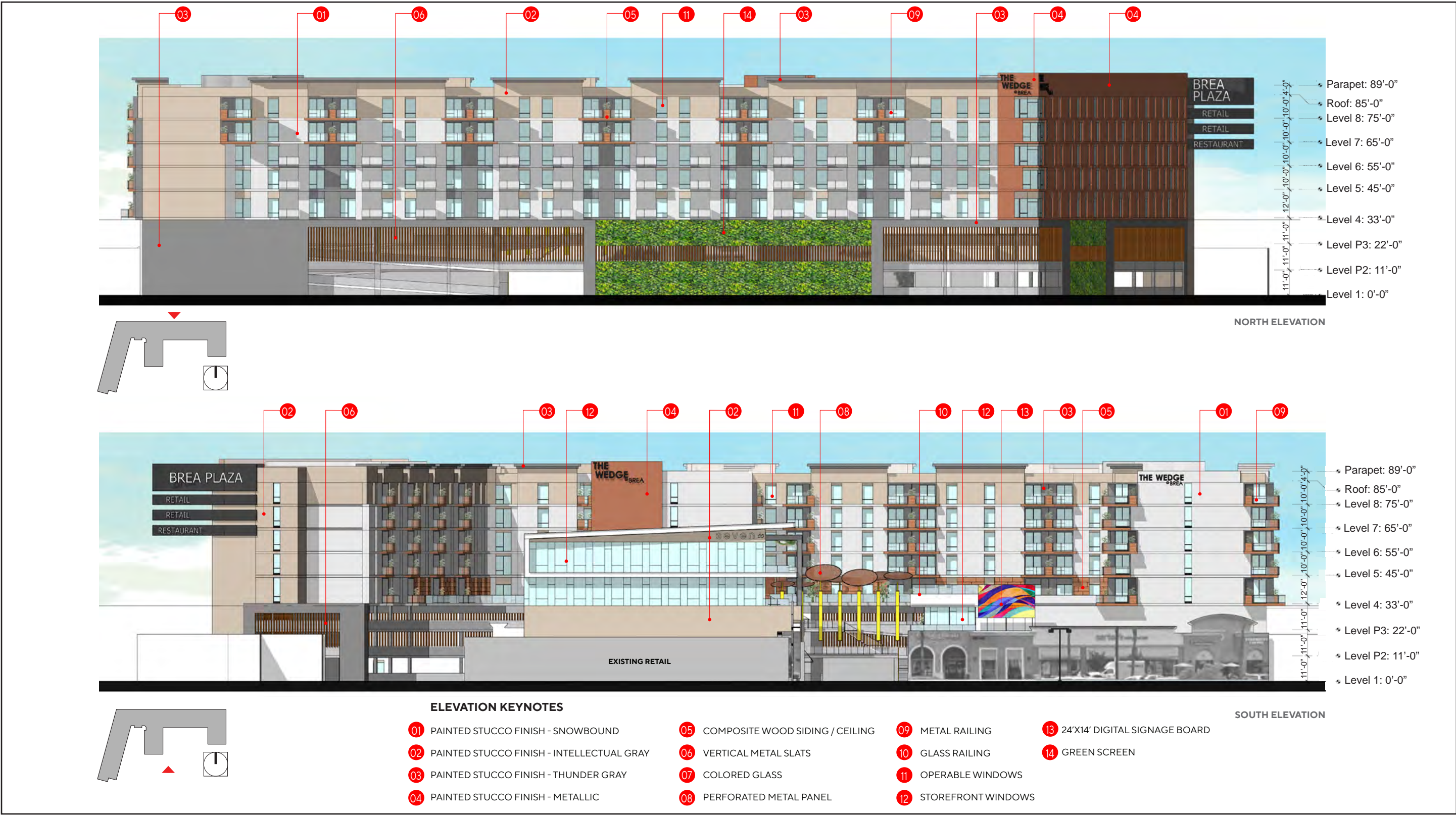
Type of Parking	Spaces	Square Feet
Existing		
Surface	739	465,700
Total	739	465,700
Project		
Surface	-139	-77,382
Structure ¹	397	182,108
Total	997	570,426
Net Change	258	104,726

Notes: Onsite parking only.

¹ The parking structure includes 10 tandem stalls.

² With the elevator shaft, at its highest point, the building would be approximately 95 feet tall. However, elevator shafts and incidental appurtenances are exempt from building height pursuant to the Brea Municipal Code Section 20.00.070.

Figure 3-6a - Building Elevation
3. Project Description



Source: Architects Orange, 2021

3. Project Description

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Figure 3-6b - Building Elevation
3. Project Description



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Scale (Feet)

Source: Architects Orange, 2021

3. Project Description

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3. Project Description

3.4.5.2 BICYCLE STORAGE

The proposed project would provide 108 long-term bicycle parking spaces and 22 short-term bicycle parking spaces in the parking structure.

3.4.5.3 TRANSPORTATION DEMAND MANAGEMENT

The proposed project would include rental cars for use by apartment residents and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea.

3.4.6 Landscaping

Level 4 of the residential building would include an amenity deck with various features, such as a fire pit lounge, covered co-working pods, raised swimming pool deck, barbeque area, paseo, landscaping, and decking, as shown in Figure 3-7, *Rooftop Garden, Breezeway, and Terraces*.

3.4.7 Infrastructure

The project site currently operates as a shopping plaza and has existing infrastructure and utilities systems. Additional connections would be required to accommodate the expansion of the site.

3.4.7.1 WATER

The City of Brea Water Department provides potable water service for the project site. New potable water lines would be extended to connect with the City's existing public water mains in order to accommodate the proposed expansion. Potable water infrastructure improvements would include trenching and exposing existing lines for connections, trenching and installing new lines, and break-in connections to existing main lines. The new water lines on-site would be maintained by the City's Water Department.

As required by the Brea Fire Department, fire hydrants would be installed at key locations of the site to meet the hose-pull requirements, and the proposed project would be required to provide adequate fire access.

3.4.7.2 WASTEWATER

Wastewater is collected via a series of sewer lines on-site and is fed to a connection point in the City's existing sewer line. The City's wastewater collection system conveys untreated wastewater to the Orange County Sanitation District's trunk sewer system. Sewer flows ultimately reach the District's Wastewater Treatment Plant #1 in Fountain Valley. Wastewater infrastructure improvements would include trenching and exposing existing lines for connections, trenching and installing new lines, and break-in connections to existing main lines.

3.4.7.3 DRAINAGE

The proposed project would include best management practices for water quality and treatment, and hydromodification to ensure the proposed storm drain system is designed to accommodate 100-year peak flows discharging from the project.

3. Project Description

3.4.7.4 UTILITIES AND SERVICE SYSTEMS

Utilities and service systems at the site include electricity (Southern California Edison), natural gas (Southern California Gas Company), telecommunications facilities (telephone, cable, and data), and solid waste (Republic Services). Additional utility infrastructure and the relocation of existing utility infrastructure would be required to accommodate the proposed expansion.

3.4.8 Project Phasing

The proposed project would disturb 2.2 acres of the 16-acre project site. Project construction would be phased over an approximately 24-month period, commencing in mid-2022 and ending in mid-2024, as shown in Table 3-5, *Construction Phasing*. The first phase involves demolition of the existing theater and 139 parking spaces, and immediate construction of the three-level parking structure (all levels would be above-grade). The second phase of the project includes construction of the residential and office structures.

Table 3-5 Construction Phasing

Construction Phase	Description	Approximate Duration	Equipment/ Haul
Demolition	Building demolition and off-site haul	June 2022 to August 2022 2 months	1 – CAT 352 1 – Deere 724L 1 – Peterbilt 4000 1 – Peterbilt 389 1 – MAC Trailer 28FT
	Demolition of asphalt and haul off-site	Aug 2020 20 days	1 – CAT 352 1 – Deere 724L 1 – Peterbilt 4000 1 – Peterbilt 389
Site Preparation	Sitework (soil haul, grading, and rough and fine grading soil haul)	Sept 2022 to October 2022 2 months	1 – CAT 352 1 – Deere 724L 1 – Peterbilt 4000 1 – Deere 210L 1 – Peterbilt 389 1 – CAT CB15
	Utility Trenching	October 2022 10 days	1 – CAT 352 1 – CAT 450 1 – Peterbilt 4000 1 – Deere 724L
Building Construction	Parking Structure Construction	November 2022 to July 2023 8 months	1 – CAT 450 1 – Peterbilt 4000 1 – Mitsubishi FD40NB
	Residential Construction	July 2023 to April 2024 9 months	1 – Mitsubishi FD40NB

3. Project Description

Table 3-5 Construction Phasing

Construction Phase	Description	Approximate Duration	Equipment/ Haul
Paving	Asphalt Paving	March 2024 11 days	1 – Volvo Blawknex P5170 1 – CAT CB15 1 – CAT CB8 1 – Deere 210L 1 – Peterbilt 4000
Architectural Coating	Architectural Coating of Buildings	April 2024 to June 2024 2 months	Not Applicable
Finishing/ Landscaping	Site Finishing and Landscaping	April 2024 to June 2024 2 months	1 – Deere 210L 1 – CAT 450

Note: Construction duration and equipment provided by the Applicant.

3.5 EXISTING ZONING AND GENERAL PLAN

The City of Brea General Plan Land Use designation for the site is General Commercial with a floor area ratio of 0.5. The Brea Plaza Shopping Center is zoned General Commercial (C-G) with a P-D Precise Development overlay. The General Commercial designation creates areas where a broad range of retail, office, and service-oriented business activities can locate. The proposed project would require a GPA and zone change to Mixed Use I. The Mixed-Use I zone provides areas for intense, mixed-use urban environments that offer opportunities for people to live, work, shop, and recreate without having to use their vehicles. This designation encourages vertical and horizontal integration of compatible residential and nonresidential uses, whereby the uses share the same structure or parcel.

3.6 CITY ACTION REQUESTED

This draft environmental impact report (DEIR) examines the environmental impacts of the proposed Brea Plaza Expansion project. This DEIR is also being prepared to address various actions by the City to adopt and implement the proposed project. It is the intent of this DEIR to enable the City, other responsible agencies, and interested parties to evaluate the environmental impacts of the proposed project and make informed decisions with respect to the requested entitlements. The discretionary actions required by the City of Brea and other agencies are shown in Table 3-6, *Actions Required*.

3. Project Description

Table 3-6 Actions Required

Lead Agency	Action
City of Brea	Approval of a General Plan Amendment
	Approval of Zone Change
	Precise Development Review
	Amendment/New Sign Program
	Approval of Building Plan Check
	Approval of Building and Grading Permits
	Approval of a Development Agreement Request
	Approval of Building Plan Check for Site Plan and Emergency Access
	Approval of Fire Master Plan
Responsible Agencies	Action
Santa Ana Regional Water Quality Control Board	Issuance of National Pollution Discharge Elimination System (NPDES) Permit
	Issuance of Construction Permit

Figure 3-7 - Rooftop Garden, Breezeway, and Terraces
3. Project Description



3. Project Description

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4. Environmental Setting

4.1 INTRODUCTION

This section provides a description of the “physical environmental conditions as they exist at the time the notice of preparation is published, ...from both a local and a regional perspective” (Guidelines § 15125[a](1)). Pursuant to provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines, 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 City of Brea is in the northeast portion of Orange County and is bordered by La Habra to the northwest; Fullerton to the southwest and south; Placentia to the south; Yorba Linda to the southeast and east; unincorporated Orange County to the east, northeast, and north; Chino Hills in San Bernardino County to the northeast; and unincorporated Los Angeles County to the northwest (see Figure 3-1, *Regional Location*, in Chapter 3, *Project Description*). The project site is bounded to the west by State Route (SR-57), which runs north-south, and to the south by Imperial Highway/SR-90, which runs east-west.

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 Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization for this region, which encompasses over 380,000 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 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (“Connect SoCal”) was adopted in September 2020. Major themes in the 2020 RTP/SCS include integrating strategies for land use and transportation; striving for sustainability; protecting and preserving existing transportation infrastructure; increasing capacity through improved system 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

4. Environmental Setting

protection, and economic opportunity; and incorporating the principles of social equity and environmental justice into the plan.

The 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. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to government and developers for consistency. The proposed project's consistency with the applicable Connect SoCal policies is analyzed in detail in Section 5.6, *Land Use and Planning*.

4.2.2.2 SOUTH COAST AIR BASIN AIR QUALITY MANAGEMENT PLAN

The project site is in the South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (South Coast AQMD). 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 Air Quality Management Plan (AQMP). Air pollutants for which ambient air quality standards (AAQS) have been developed are known as criteria air pollutants—ozone (O₃), carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide, coarse inhalable particulate matter (PM₁₀), fine inhalable 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 O₃, 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. The SoCAB is designated nonattainment for O₃, PM_{2.5}, PM₁₀, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for NO₂ under the California AAQS (CARB 2019). 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 of California guidance and goals for reduction in GHG emissions are generally embodied under the following:

- **Executive Order S-03-05**, signed June 1, 2005, set the following GHG reduction goals for the State of California:
 - 2000 levels by 2010
 - 1990 levels by 2020
 - 80 percent below 1990 levels by 2050
- **Assembly Bill 32 (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 established a legislative target for the year 2020 goal outlined in Executive Order S-03-05. CARB prepared its first Scoping Plan in 2008 outlining the State's plan for achieving the 2020 targets of AB 32 (CARB 2008).

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- **Senate Bill 375** was adopted in 2008 to connect passenger vehicle 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 automobile 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.
- **Senate Bill 32** made the Executive Order B-15-30 goal for year 2030 of a 40 percent reduction below 1990 levels by 2030 into a statewide-mandated legislative target. CARB issued an update to its Scoping Plan in 2017 that lays out programs for meeting the SB 32 reduction target (CARB 2017).
- **Executive Order B-55-18** sets a goal for the state to achieve carbon neutrality no later than 2045 and to achieve and maintain net negative emissions thereafter.

The proposed project's ability to meet these regional GHG emissions reduction target goals is analyzed in Section 5.5, *Greenhouse Gas Emissions*.

4.2.2.4 SENATE BILL 743

On September 27, 2013, SB 743 was signed into law and started a process that fundamentally changes transportation impact analysis as part of CEQA compliance. With the adoption of SB 375, the state signaled its commitment to encouraging land use and transportation planning decisions and investments that reduce VMT and thereby contribute to the reduction of GHG emissions, as required by the California Global Warming Solutions Act of 2006 (AB 32).

SB 743 eliminates auto delay, level of service, and other similar measures of vehicular capacity or traffic congestion as the sole basis for determining significant impacts under CEQA. Pursuant to the 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 § 21099[b][1]).

Pursuant to SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines to implement SB 743 on December 28, 2018. The revised CEQA Guidelines establish new criteria for determining the significance of transportation impacts. Under the new Guidelines, VMT-related metric(s) are required beginning on July 1, 2020, to evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects. The legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, or any other planning requirements that require evaluation of level of service, but these metrics can no longer constitute the sole basis for determining transportation impacts under CEQA.

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4.3 LOCAL ENVIRONMENTAL SETTING

4.3.1 Location and Land Use

4.3.1.1 PROJECT LOCATION

As shown in Figure 3-1, *Regional Location*, Figure 3-2, *Local Vicinity*, and Figure 3-3, *Aerial Photograph*, the project site is in the City of Brea, at the Brea Plaza Shopping Center at 1639 East Imperial Highway. The project site encompasses 2.2 acres of the Brea Plaza Shopping Center, which is 16 acres in northeast Orange County. The Brea Plaza Shopping Center is east of SR-57 and is generally bounded by the Mercury Insurance office development to the north, South Associated Road and a single-family residential neighborhood to the east, Imperial Highway/SR-90 and a commercial development in Fullerton to the south, and SR-57 to the west.

4.3.1.2 EXISTING LAND USE

An aerial photograph of the Brea Plaza Shopping Center is shown on Figure 3-3, *Aerial Photograph*. The shopping center has 165,329 square feet of commercial space and includes a mix of tenants, including Mother's Market (north side), Buca di Beppo (west side), Lucille's Smokehouse Bar-B-Que (south side), Chick-fil-A (south side), Friar Tux (northeast side), Total Wine and More (west side), Custom Comfort Mattress (northwest side), Grand Salon (west side), and Brea Plaza 5 Cinemas (northwest side).

There are 739 surface parking spaces at the Brea Plaza Shopping Center. The applicant has a Memorandum of Understanding with Mercury Insurance for approximately 180 spaces during business hours, and all surface spaces (approximately 500 spaces) after 5:00 pm and on weekends; however, this expires in April 2026. Vehicular access to Brea Plaza Shopping Center is provided via a dedicated northbound left-turn only lane, a dedicated southbound right-turn only lane, and a full access driveway on Associated Road, and a right-turn only on Imperial Highway plus the signalized intersection of Imperial Highway at SR-57 northbound (NB) ramps/Brea Plaza. Figures 4-1a and 4-1b, *Site Photographs*, show the existing conditions at the site.

Figure 4-1a - Site Photographs
4. Environmental Setting



Photo 1. View of State Route 57 from East Imperial Highway looking northeast.



Photo 2. View of Jared Jewelry and East Imperial Highway looking southwest.



Photo 3. View of right-turn-only exit onto Associated Road looking northeast.

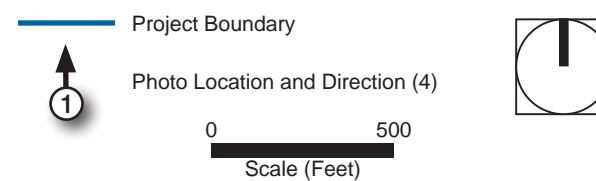


Photo 4. View of Brea Cinemas (right) and Mercury Insurance (left) looking south.

Key Map Source: Nearmap, 2020

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Figure 4-1b - Site Photographs
4. Environmental Setting



Photo 5. View of Buca di Beppo looking northwest.



Photo 7. View of Total Wine looking northwest.

Key Map Source: Nearmap, 2020

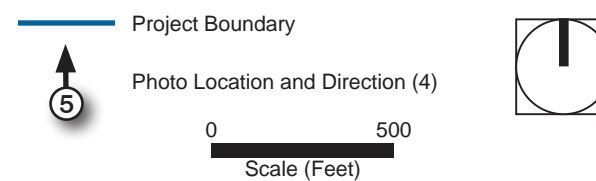


Photo 6. View of various retail looking north.



Photo 8. View of Mother's Market and Kitchen looking northwest.

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4. Environmental Setting

4.3.1.3 SURROUNDING LAND USE

The project site is at the confluence of SR-57 and Imperial Highway northbound ramps (see Figure 3-3). SR-57 divides the Brea Plaza Shopping Center from the land uses further west of the project site, including the Brea Mall, other commercial uses, and the Craig Regional Park to the southwest. The project site is directly surrounded by commercial and residential uses to the west of SR-57. The northern portion of the project site is bounded by the Mercury Insurance corporate campus, which includes Mercury Insurance's office building, parking structure, and parking lot. North of the Mercury Insurance campus and Greenbriar Lane are single-family residential uses and Greenbriar Park. To the east of the project site, across South Associated Road, is a single-family residential neighborhood. Directly south of Imperial Highway are commercial and retail uses (Circle K gas station and car wash, Arco gas station, 7-Eleven, Wendy's, Patio Furniture Plus, Dolce Hair and Nails) and the North Fullerton KinderCare daycare facility farther to the south. Residential uses are also southeast of the intersection of Associated Road and Imperial Highway and the Southern California Edison (SCE) electrical substation.

4.3.2 Environmental Resources and Infrastructure

4.3.2.1 AESTHETICS

The project site is currently developed as the Brea Plaza Shopping Center, which includes 165,329 square feet of commercial uses. Refer to Section 5.1, *Aesthetics*, of this DEIR for more information on the existing visual quality of the site.

4.3.2.2 AIR QUALITY

The SoCAB, which is managed by South Coast AQMD, is designated nonattainment for O₃ and PM_{2.5} under the California and National AAQS, nonattainment for PM₁₀ under the California AAQS, and nonattainment for lead (Los Angeles County only) under the National AAQS (CARB 2018). A discussion of regional air quality considerations is described in Section 4.2.2. Existing air quality conditions in the city are analyzed in Section 5.2, *Air Quality*, of this DEIR.

4.3.2.3 CULTURAL RESOURCES

The project is currently developed and is not listed as a state or national historic resource. Two archaeological resources have been identified within a half-mile radius, but not on the project site (SCCIC 2020). According to the Native American Heritage Commission's Sacred Lands record search, no tribal resources were found on the project site. Refer to Section 5.3, *Cultural and Paleontological Resources*, for more information on historical, archaeological, and paleontological resources.

4.3.2.4 ENERGY

The project site is currently developed and uses various forms of energy throughout its operation as a shopping center (electricity, natural gas, and transportation). Refer to Section 5.4, *Energy*, for a discussion of energy use and requirements in California.

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4.3.2.5 GREENHOUSE GAS EMISSIONS

Global climate change is not confined to a particular project site, and even a very large project does not generate enough greenhouse gas emissions on its own to influence global climate change significantly. Regional GHG considerations are described above in Section 4.2.2. Refer to Section 5.5 of this DEIR, *Greenhouse Gas Emissions*, for a discussion of GHG emissions in California.

4.3.2.6 LAND USE AND PLANNING

The project site is in an urbanized area, surrounded by residential and commercial uses. The project site is currently zoned General Commercial (C-G) with a P-D Precise Development overlay, and the General Plan land use designation for the site is General Commercial. Section 5.6, *Land Use and Planning*, provides further analysis of regional and local land use plans applicable to the proposed project.

4.3.2.7 NOISE

The project site is currently developed, and the noise environment surrounding the project site is influenced by on-site operations and activities; surrounding roadways sources; and nearby residential, institutional, and commercial uses. Refer to Section 5.7, *Noise*, for additional information concerning the existing noise environment.

4.3.2.8 POPULATION AND HOUSING

The existing Brea Plaza Shopping Center consists of 165,329 square feet of commercial space, and the shopping center creates approximately 235 employment opportunities. Refer to Section 5.8, *Population and Housing*, for further information on population and housing.

4.3.2.9 PUBLIC SERVICES

The City of Brea Fire Department provides fire service. Police services in Brea are provided by the City of Brea Police Department. The project site is within the Brea-Olinda Unified School District boundaries. The Brea Branch Library, which is part of the Orange County Public Library community library network, provides library services in Brea. Refer to Section 5.10, *Public Services*, for additional information on public services.

4.3.2.10 RECREATION

The existing Brea Plaza Shopping Center does not include recreational facilities; Craig Regional Park is approximately 725 feet southwest. Refer to Section 5.10, *Recreation*, for information on recreational facilities.

4.3.2.11 TRANSPORTATION

Regional access to the project site is provided by SR-57, which runs north-south and bounds the western portion of the site, and Imperial Highway (SR-90), which runs east-west and bounds the southern portion of the site. Vehicular access to the site would continue from existing driveways. Refer to Section 5.11, *Transportation*, for additional information concerning existing transportation and traffic conditions.

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4.3.2.12 TRIBAL CULTURAL RESOURCES

The Native American Heritage Commission's Sacred Lands file record search found no tribal resources on the project site. Refer to Section 5.12, *Tribal Cultural Resources*, for additional information on tribal cultural resources.

4.3.2.13 UTILITIES AND SERVICE SYSTEMS

The project site is currently developed and has utility connections and tie-ins on-site. Water and wastewater are treated by the Orange County Sanitation District; water is supplied by the California Domestic Water Company and the Municipal Water District of Orange County through the City of Brea Water Division; and solid waste is transported to the Olinda Alpha landfill. Refer to Section 5.13, *Utilities and Service Systems*, of this DEIR for additional information.

4.3.3 Local Planning Considerations

The General Plan Land Use designation for the site is General Commercial, and it is zoned C-G General Commercial with a P-D Precise Development overlay, as shown in Figure 4-2, *Existing General Plan Land Use Designations*, and Figure 4-3, *Existing Zoning Designations*. The proposed project would require a General Plan Amendment and zone change to Mixed Use II.

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 that 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 that necessary for the project alone. Section 15355 of the Guidelines defines cumulative impacts to be "...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.

The CEQA Guidelines (Section 15130 [b][1]) state that the information utilized in an 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; 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 EIR uses a combination of methods A and B. Generally, the growth projections that are identified in the Brea General Plan have been utilized for the general plan forecast year conditions. Table 4-1, *Location and Description of Cumulative Projects*, provides a list of cumulative projects in the project area.

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Table 4-1 Locations and Descriptions of Cumulative Projects

Project/Applicant Name ¹	Location	Project Type/Size
City of Brea		
CVS	390 N. Brea Boulevard	13,000 SF Pharmacy with Drive-through 1,700 SF Coffee Shop with Drive-through
Brea Place	State College Boulevard at Birch Street	653 Unit Apartments ² 5,000 SF Office 150 Room Hotel
Downtown Hotel	220 S. Brea Boulevard	116 Room Hotel 4,000 SF High Turnover Sit Down Restaurant
Mercury Apartments	Southwest corner of Berry Street at Mercury Lane	120 DU Apartments
Brea Mall Mixed-Use Project	1065 Brea Mall	Demolish 161,990 SF Sears department store and develop 183,615 SF retail space inclusive of a 50,019 SF sporting goods store and a 128,000 SF health club, and a 312 DU apartment building
Brea 265 Specific Plan ³	South of Lambert Road/Carbon Canyon Road, north of Rose Drive, east of Valencia Avenue, and west of Carbon Canyon Regional Park	606 Single Family Units 494 Multi-Family Units Total of 1,100 Units
Central Park Village	340-420 West Central Avenue	62 townhomes units 20 apartment units ⁴
New Industrial Building	201 North Berry Street	108,125 SF Warehouse
Alvero Assisted Living	251 South Randolph Avenue	80 rooms with 82 beds residential care facility
Extra Space Self-Storage	2700 East Imperial Highway	126,546 self-storage facility
Brea Imperial Center	391 South State College Boulevard	5,000 SF restaurant 2,300 SF bagel/coffee shop 1,600 SF café 3,867 SF In-N-Out 28,145 SF retail 4,400 SF bank to replace existing land uses which include 4,050 SF food uses, 24,481 SF retail, 4,400 SF bank, 2,325 SF medical office, 10,074 SF health studio spa.
Transwestern	285 South Berry Street and 711 West Imperial Highway	132,700 SF warehouse
City of Fullerton		
Beckman Business Center	4300 North Harbor Boulevard	522,250 SF Warehousing 166,185 SF General Light Industrial 105,880 SF Manufacturing 42,000 SF Office 142,350 SF Fulfillment Center
3105 Yorba Linda Boulevard	3105 Yorba Linda Boulevard	4,840 SF drive-through car wash

Source: LLG 2021 (Appendix J2).

Notes: SF: square feet

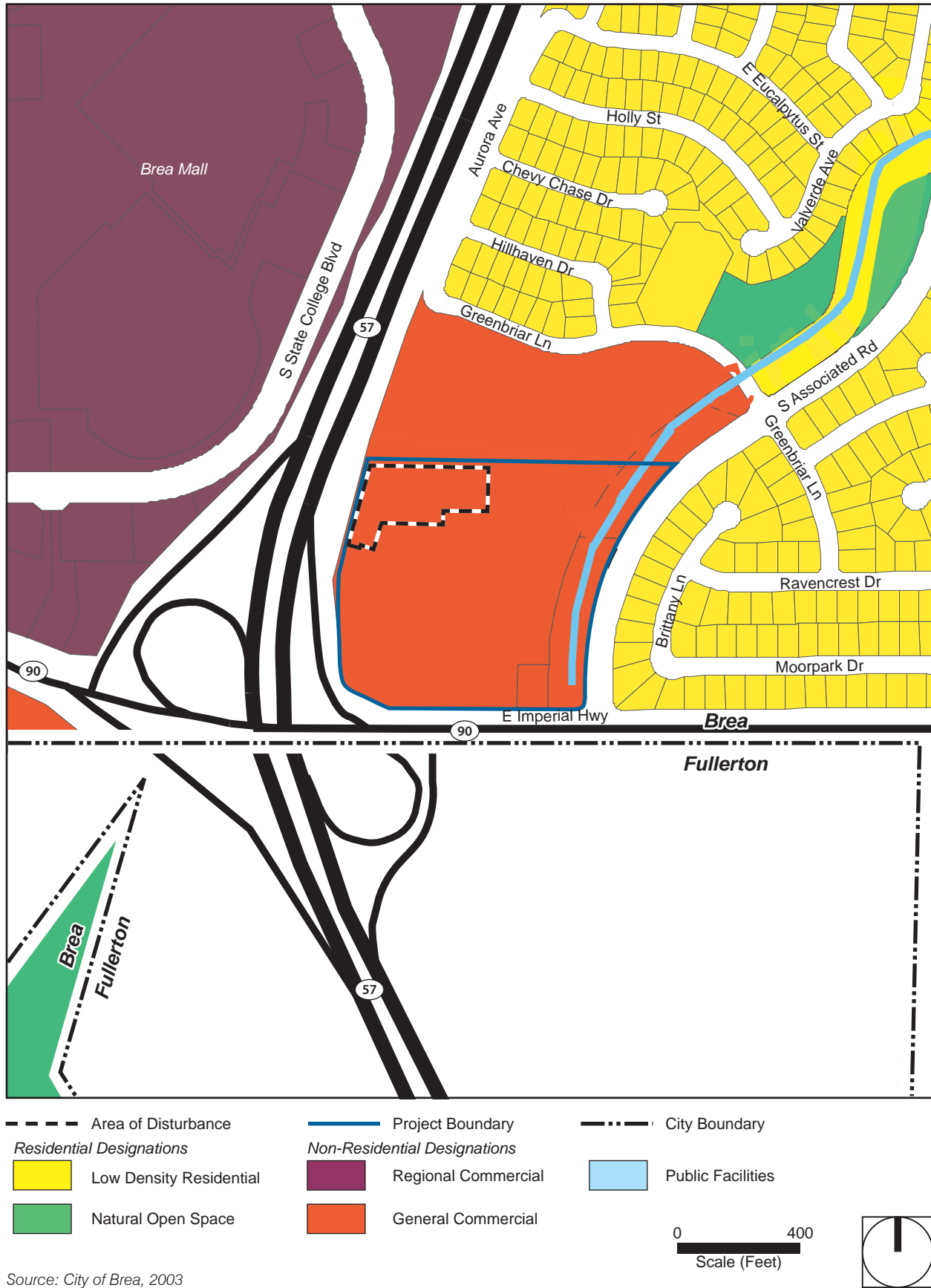
¹ Project list provided by City of Brea and City of Fullerton Planning Departments.

² The traffic impact analysis conservatively evaluated 790 units, which would result in higher traffic volumes as originally planned, which would result in higher traffic volumes in the cumulative scenarios.

³ Brea 265 Specific Plan Project has been included as a related project as part of Year 2045 General Plan Buildout background traffic conditions.

⁴ The project has already built and occupied 206 apartment and 83 townhome units.

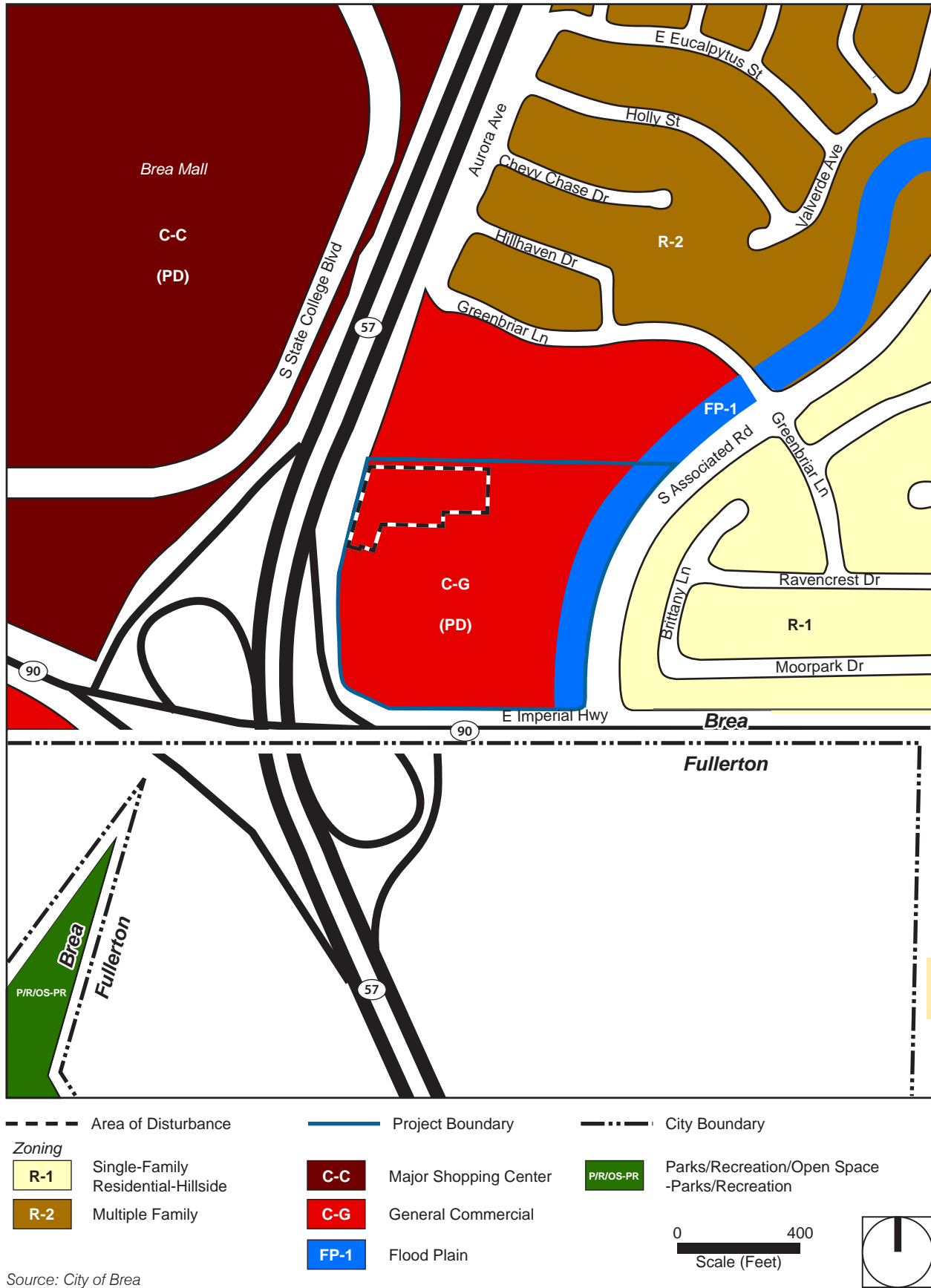
Figure 4-2 - Existing General Plan Land Use Designations
4. Environmental Setting



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Figure 4-3 - Existing Zoning Designations
4. Environmental Setting



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Depending on the environmental category, the cumulative impact analysis may use either source A or B. Some impacts are site specific, such as cultural resources, and others may have impacts outside the city boundaries, such as regional air quality. Please 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.

Cumulative impact analyses for several topical sections are also based on the most appropriate geographic boundary for the respective impact. Several potential cumulative impacts that encompass regional boundaries (e.g., air quality and traffic) have been addressed in the context of various regional plans and defined significance thresholds. Climate change is a global issue, and the cumulative impacts analysis has been addressed in the context of state regulations and regional plans designed to address the global cumulative impact.

Following is a summary of the approach and extent of cumulative impacts, which are further detailed in each environmental topical section:

- **Aesthetics.** The geographic context for the analysis of cumulative aesthetics and visual resources impacts includes developments in Brea. The proposed project's physical impacts are localized and would take place within the footprint of the Brea Plaza Shopping Center.
- **Air Quality.** Air quality impacts include regional (cumulative) impacts and localized impacts. For cumulative impacts, the analysis is based on the regional boundaries of the SoCAB.
- **Cultural and Paleontological Resources.** Cumulative impacts consider the potential for the proposed project in conjunction with nearby existing and reasonably foreseeable development projects to result in impacts on cultural resources on the project site and within a one-mile radius of the project site for historical, archaeological, and paleontological resources and for tribal cultural resources significant to local Native American tribes.
- **Energy.** Energy impacts can contribute to the consumption and demand for energy in the region (e.g., Southern California Edison and the Southern California Gas Company).
- **Greenhouse Gas Emissions.** GHG emissions impacts are not site-specific impacts but are cumulative worldwide. Therefore, the project-level analysis in Section 5.5 also provides the analysis to determine whether the project would make a cumulatively considerable contribution to significant cumulative GHG emissions.
- **Land Use and Planning.** Cumulative impacts are based on applicable jurisdictional boundaries and related plans, including the City of Brea General Plan and regional land use plans (e.g., SCAG's RTP/SCS).
- **Noise.** Cumulative traffic noise impacts are based on the traffic study, which considers the regional growth based on citywide and regional projections. Cumulative construction impacts are based on nearby

4. Environmental Setting

projects that may have concurrent construction schedules. Cumulative operational impacts are based on existing development combined with the project and reasonably foreseeable nearby future development.

- **Population and Housing.** Cumulative impacts are based on regional demographic projections in regional plans (e.g., SCAG's RTP/SCS).
- **Public Services.** Cumulative impacts are based on potential related development within each service provider's boundaries—Brea Fire Department, Brea Police Department, Brea-Olinda Unified School District, and Brea Public Library.
- **Recreation.** Cumulative impacts are based on the potential related development proximate to existing recreational facilities.
- **Transportation.** The traffic study considers the project's cumulative contribution to traffic and transportation issues in the project vicinity. The cumulative traffic analysis is based on a regional transportation demand model and incorporates regional growth projections identified by SCAG and the Orange County Transportation Authority. The cumulative analysis of transit, bicycle, and pedestrian transportation impacts is based on City plans and policies. For the opening year analysis, the traffic analysis includes background traffic growth using an ambient traffic growth factor (1 percent per year) to account for regular growth in traffic volumes due to the development of projects outside the study area as well as traffic growth from other known development projects (related projects) within a two-mile radius of the proposed project in Brea and Fullerton (see Table 4-1).
- **Tribal Cultural Resources.** Impacts related to tribal cultural resources are based on the local Native American tribes' culturally significant areas and include, but are not limited to, cultural landscapes and regions, specific heritage sites, and other tribal cultural places.
- **Utilities and Service Systems.** Cumulative impacts related to utilities are based on the utility companies' service boundaries.

4.5 REFERENCES

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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 the EIR. This scope was determined in the Notice of Preparation (NOP), which was published July 27, 2020 (see Appendix 2-1), and through public and agency comments received during the NOP comment period from July 27 to August 26, 2020 (see Appendix 2-1). Environmental issues and their corresponding sections are:

- 5.1 Aesthetics
- 5.2 Air Quality
- 5.3 Cultural and Paleontological Resources
- 5.4 Energy
- 5.5 Greenhouse Gas Emissions
- 5.6 Land Use and Planning
- 5.7 Noise
- 5.8 Population and Housing
- 5.9 Public Services
- 5.10 Recreation
- 5.11 Transportation
- 5.12 Tribal Cultural Resources
- 5.13 Utilities and Service Systems

The following topical areas are discussed in Chapter 8, *Impacts Found Not to Be Significant*.

- Agriculture and Forestry Resources
- Biological Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Wildfire

Sections 5.1 through 5.13 provide detailed discussions 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.

5. Environmental Analysis

Organization of Environmental Analysis

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

- Environmental Setting
- Thresholds of Significance
- Plans, Programs, and Policies
- Environmental Impacts
- Cumulative Impacts
- Level of Significance Before Mitigation
- Mitigation Measures
- Level of Significance After Mitigation
- References

In addition, Chapter 1, *Executive Summary*, has a table that summarizes all impacts by environmental issue.

Terminology Used in This Draft EIR

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

- **No impact.** The project would not change the environment.
- **Less than significant.** The project would not cause any substantial, adverse change in the environment.
- **Less than significant with mitigation incorporated.** The EIR includes mitigation measures that avoid substantial adverse impacts on the environment.
- **Significant and unavoidable.** 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.

5. Environmental Analysis

5.1 AESTHETICS

This section of the Draft Environmental Impact Report (DEIR) discusses the potential impacts to the visual character of the project site and its surrounding from development of the proposed project. This section includes a discussion of the qualitative aesthetic characteristics of the environment that could be potentially degraded by the project's implementation. The assessment of aesthetic impacts is subjective by nature. Aesthetics generally refer to the identification of visual resources, the quality of what can be seen, and 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 the proposed project.

5.1.1 Environmental Setting

5.1.1.1 REGULATORY BACKGROUND

Local

City of Brea Municipal Code

Chapter 20.08, Development Standards, of the municipal code provides citywide development standards for lighting, off-street parking and loading, transportation demand management requirements, and other development standards. Chapter 20.236.040, Property Development Standards, provides development standards for landscaping, walls, and fences in the General Commercial (C-G) zone. Chapter 20.408, Administrative Procedures, lists the plan review procedure process in order to enable responsible City departments to review development proposals for conformity with applicable provisions of the Brea City Code and all requirements of law.

Additionally, Chapter 20.258, Mixed-Use Zoning Districts, provides general development standards for the mixed-use zoning districts in the city, which include development standards for lot area and dimensions, yards, and outdoor living space. Furthermore, Chapter 20.28, Signs, regulates the location, size, type, content, and number of signs permitted.

City of Brea General Plan

The community resources element of the Brea General Plan provides the following policies pertaining to the preservation and protection of scenic resources:

- **Policy CR-10.1.** Create and enforce special standards for development occurring within potential scenic highway corridors.
- **Policy CR-10.2.** Identify streets with unique man-made or natural characteristics for special consideration as scenic routes.

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AESTHETICS

- **Policy CR-10.3.** Manage stands of mature trees, particularly native species, as unique and visual resources.
- **Policy CR-10.4.** Preserve major rock outcroppings as unique landmarks and visual resources to the maximum extent possible.
- **Policy CR-10.5.** Preserve stream courses in their natural state, as they represent a recreation resource, provide community identity, and serve as unifying corridors in the planning area.
- **Policy CR-10.6.** Work aggressively with Orange County, Los Angeles County, State and other appropriate agencies, private entities, and landowners to conserve, protect, and enhance natural resources, particularly within the sphere of influence.

The urban design section of the community development element includes the following goals pertaining to the aesthetic qualities and design of development in Brea:

- **Goal CD-17:** Promote and maintain a distinct community identity and sense of place that include the presence of identifiable districts and neighborhoods.
- **Goal CD-18:** Emphasize the use of public spaces and pedestrian and transit use throughout the community.
- **Goal CD-19:** Encourage active and inviting street environments that include a variety of uses within the Commercial and Mixed-Use areas.
- **Goal CD-20:** Encourage site planning within Commercial and Mixed-Use districts that functionally and visually integrates on-site facilities and uses, including buildings, services, access, and parking.
- **Goal CD-21:** Integrate residential development with its built and natural surroundings, and in particular, encourage a strong relationship between dwellings and the street.
- **Goal CD-22:** Encourage the use of native plant palettes in the creation of landscaping plans used to establish a sense of place in neighborhood identification efforts.

Policies for Providing a Balance of Housing

The following policies provide a balance of land uses to meet the present and future needs of all residents.

- **Policy CD-1.1.** Create neighborhoods that effectively integrate single-family and multi-family housing with convenience and neighborhood shopping centers, park and recreation areas, and other uses appropriate for the neighborhoods.
- **Policy CD-1.2.** Maintain a land use structure that balances the provision of jobs and housing with available infrastructure and public and human services.

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AESTHETICS

- **Policy CD-1.3.** Endeavor to create a mixture of employment opportunities for all economic levels of citizens.
- **Policy CD-1.4.** Ensure that the City maintains a balance among residential, commercial, and industrial land uses.
- **Policy CD-1.5.** Provide opportunities for development of housing that responds to diverse community needs in terms of density, size, location, design, and cost.

Policies for Creating Connections

- Build especially prominent visual and physical connections between Downtown and the remainder of the community; key strategies for establishing strong links are district gateways, landscape corridors, convenient transit, comfortable and attractive transit stops, and walkable streets.
- Create an extensive network of safe and comfortable pedestrian linkages throughout the Downtown, including visually attractive, high-amenity streetscapes, pedestrian paseos and paths, and urban outdoor rooms.
- Strengthen the connection along Birch Street between the heart of Downtown and the Civic and Cultural Center; pedestrian-oriented, mixed-use development, and a high level of streetscape amenity are encouraged.

5.1.1.2 EXISTING CONDITIONS

An aerial photograph of the Brea Plaza Shopping Center is shown on Figure 3-3, *Aerial Photograph*, in Chapter 3, *Project Description*. The shopping center has 165,329 square feet of commercial uses and includes a mix of tenants, including, Mothers Market (north side), Buca di Beppo (west side), Lucille's Smokehouse Bar-B-Que (south side), Chick-fil-A (south side), Friar Tux (northeast side), Total Wine and More (west side), Custom Comfort Mattress (northwest side), Grand Salon (west side), and Brea Plaza 5 Cinemas (northwest side). There are 609 parking spaces within the Brea Plaza Shopping Center. Moreover, the applicant has an easement with Mercury Insurance for approximately 180 spaces during business hours, and all surface spaces (approximately 500 spaces) after 5:00 pm and on weekends; the MOU will expire in April 2026, and the project applicant will be required to accommodate parking on the project site. Vehicular access to Brea Plaza Shopping Center is provided via left-turn only on northbound Associated Road and a right-turn only on southbound Associated Road and a full access driveway on Associated Road, and a right-turn only on Imperial Highway plus the signalized intersection of Imperial Highway at SR-57 northbound (NB) ramps/Brea Plaza.

Visual Character

The Brea Plaza Shopping Center is in an urbanized area in the western portion of the city. SR-57 divides the Brea Plaza Shopping Center from the land uses further west of the project site, including the Brea Mall, other commercial uses, and Craig Regional Park to the southwest. The northern portion of the project site is bounded by Mercury Insurance corporate campus, which includes Mercury Insurance's office building,

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parking structure, and parking lot. North of the Mercury Insurance campus and Greenbriar Lane are single-family residential uses and Greenbriar Park. To the east of the project site, across South Associated Road, is a single-family residential neighborhood. Directly south of Imperial Highway are commercial and retail uses (Circle K gas station and car wash, Arco gas station, 7-Eleven, Wendy's, Patio Furniture Plus, Dolce Hair and Nails) and the North Fullerton Kindercare daycare facility farther to the south. Residential uses are also southeast of the intersection of Associated Road and Imperial Highway and the Southern California Edison electrical substation.

As shown in Figures 4-1a and 4-1b, *Site Photographs*, in Chapter 4, *Environmental Setting*, the project site contains existing development and parking lot associated with the existing Brea Plaza Shopping Center. The commercial uses on-site generally have beige-, brown-, cream-, red-, and teal-colored stucco exteriors and terracotta tile roofing. The buildings on-site have a generally unifying theme and development pattern, and the buildings on the project site are visually similar to the surrounding commercial uses in the project vicinity.

The vegetation on the Brea Plaza Shopping Center site consists of ornamental trees and shrubs scattered throughout the surface parking lots of the project site. The project site is fully developed and contains no areas of natural or substantial open space. The nearest natural or open space areas from the project site are Greenbriar Park, approximately 500 feet northeast, and Craig Regional Park, approximately 600 feet southwest.

Visual Resources

The project site is fully developed with the existing Brea Plaza Shopping Center; no visual resources are present on the Brea Plaza Shopping Center site.

Landform

The Brea Plaza Shopping Center site is generally flat, and gradually slopes from west to east. Elevations range from approximately 305 feet on the eastern portion to 320 feet on the western portion of the project site.

Scenic Vistas and Corridors

According to Figure CR-4, Scenic Resources, of the Brea General Plan, SR-57, which bounds the western portion of the shopping center, is eligible for California State Scenic Highway Status (Brea 2003).

5.1.2 Thresholds of Significance

Appendix G of the CEQA Guidelines states that, "except as provided in Public Resources Code Section 21099," 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 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

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- 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). If the project is in an urbanized area, would the project 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 day or nighttime views in the area.

5.1.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP) include applicable regulatory requirement and conditions of approval for aesthetic impacts.

- PPP AES-1 The proposed project is required to provide a minimum landscaped coverage of 15 percent of the net site area in accordance with municipal code Section 20.258.020, General Development Standards for the Mixed-Use Zoning Districts.
- PPP AES-2 For parking areas, the proposed project is required to maintain an equivalent of one foot-candle of illumination on the average throughout the parking area. The lighting is required to be on a time-clock or photo-sensor system. The lighting shall be designed to confine direct rays to the premises. No spillover beyond the property line shall be permitted in accordance with municipal code Section 20.08.040(C)(5), Lighting.
- PPP AES-3 All lighting, interior and exterior, shall be designed and located so as to confine all direct rays to the premises in accordance with municipal code Section 20.220.040(L), Lighting. Lighting for nonresidential uses shall be appropriately designed, located, and shielded to ensure that they do not negatively impact the residential uses in compliance with Section 20.08.040(C)(5).
- PPP AES-4 Signs shall be located in a manner to ensure that sight distance is not impaired at any locations for vehicular traffic to and from the premises, in accordance with municipal code Section 20.28, Signs. The Brea Plaza comprehensive sign program will be amended, subject to Planning Commission approval. The proposed digital signage for the Brea Plaza Shopping Center on the southern façade of the structure requires review by the Planning Commission to ensure that its size, location, movement, content, coloring, or manner of illumination does not constitute a traffic hazard or a detriment to traffic safety by obstructing the vision of drivers, or detracting from the visibility of any official traffic control device, or by diverting or tending to divert the attention of drivers of moving vehicles from the traffic movement on the public streets and highway. Pursuant to Municipal Code Section 20.28.230, Sign Illumination, the approval of any illuminated sign shall not be final until 30 days after installation, during which period the Development Services Director or his or her designee may order the dimming of any illumination found to be excessively brilliant.

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- PPP AES-5 Loading areas for nonresidential uses shall be located as far as possible from residential units and shall be completely screened from view from the residential portion of the project and streets, in compliance with subsections 20.236.040(E), Walls and Fences, and 20.220.040(F), Fences, Walls, and Hedges, and subparagraph K. Screening and buffering standards for loading areas shall be compatible in architectural design and details with the overall project. The location and design of loading areas shall mitigate nuisances from odors when residential uses might be impacted, in accordance with subsection 20.258.030(I)(3), Loading Areas.
- PPP AES-6 Recycling and refuse storage facilities for nonresidential uses shall be as far as possible from residential units and shall be completely screened from view from the residential portion of the project and streets in compliance with the standards in subsections 20.236.040(E), Walls and Fences, and 20.220.040(F), Fences, Walls, and Hedges, and subparagraph K, Screening and Buffering. Recycling and refuse storage facilities for nonresidential uses should be compatible in architectural design and details with the overall project. The location and design of trash enclosures shall mitigate nuisances from odors when residential uses might be impacted, in accordance with the standards in subsection 20.258.030(J), Recycling and Refuse Storage Facilities.
- PPP AES-7 In accordance with Section 20.258.030(D), Specific Development Standards for all Mixed-Use Projects, of the Brea Municipal Code, the architectural style and use of quality materials shall be consistent throughout the entire project; however, differences in architectural details and/or materials may occur to differentiate between the nonresidential and residential portions of the project.
- PPP AES-8 In accordance with Section 20.258.030(D)(3.F), Specific Development Standards for all Mixed-Use Projects, of the Brea Municipal Code, the design of the residential portion of the project shall be consistent with the design guidelines for multi-family residential development. In accordance with Section 20.258.030(A)(2), Specific Development Standards for all Mixed-Used Projects MU-I Zoning Districts, of the Brea Municipal Code, nonresidential and residential uses shall be vertically integrated whenever possible; however, stand-alone residential projects and stand-alone nonresidential projects are allowed when planned and designed as an integrated element of a larger mixed-use development area.

5.1.4 Environmental Impacts

Impact 5.1-1: The proposed project would not substantially alter the visual appearance of the project site. [Thresholds AE-1 and AE-3]

The proposed project would result in the redevelopment of a 2.2-acre area within the 16-acre project site. The proposed project would allow for a mix of uses at the Brea Plaza Shopping Center, including residential and office uses, and a parking garage.

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Scenic Vistas

Vistas provide access or panoramic views to a large geographic area. The community resources element of the General Plan states, “Scenic resources enhance the visual character of the community and provide distinguishing characteristics, an invaluable asset that benefits a community” (Brea 2003). The project site is fully developed and is located within a highly urbanized portion of the city that is generally flat. The General Plan states that “vista points can be found throughout Brea both from urban areas toward the hills and from wilderness areas looking back onto Brea” (Brea 2003).

Chino Hills State Park offers views throughout the park, such as the views from Telegraph Canyon, Sonome Canyon, Soquel Canyon, and Lions Canyon; however, Gilman Peak is called out as a “viewpoint of particular interest” and is denoted as a scenic viewpoint in Figure CR-4 of the Brea General Plan (Brea 2003). Gilman Peak is approximately six miles east of the project site. Due to the distance, varying topography, and highly urbanized nature of the city, views of and from Chino Hills State Park, particularly Gilman Peak, would not be impacted.

Level of Significance Before Mitigation: Less Than Significant.

Visual Character

Redevelopment of the shopping center would result in new mixed-use structure in the northwestern portion of the project site (see Figure 3-4, *Conceptual Site Plan*). The office uses would be located above Custom Comfort Mattress and Grand Salon, and the residential uses would be located where the Brea Plaza 5 Cinemas and surface parking spaces are currently located in the northwestern corner of the site. As shown on Figure 3-5a and Figure 3-b, *Conceptual Mixed-Use Building Cross-Section*, the residential uses would be located atop a three-story above-grade parking structure, and the office uses would be located on the eastern and central portions of the structure.

Figures 3-6a and 3-6b, *Building Elevation*, show the design and height of the five-story apartment and office building above the three-story parking structure (eight stories total). The exterior of the building would consist of light beige, light and dark gray, and white stucco; wood and metal panels; as well as metal and glass railings.

The Mixed Use I Zone allows structures with a maximum height 100 feet. The proposed parking structure would have three levels (all above grade). The parking structure would be 33 feet tall above grade; from the top of the parking structure to the building’s roofline would be up to 56 feet higher. The building would be 89 feet tall as measured from the ground (level 1 of the parking structure) to the top of the parapet.¹ The proposed project would not exceed the maximum height allowed in the MU I zone and a variance would not be required for approval by the City.

¹ With the elevator shaft, at its highest point, the building would be approximately 95 feet tall. However, elevator shafts and incidental appurtenances are exempt from building height pursuant to the Brea Municipal Code Section 20.00.070.

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Building pop-outs, variations in building rooflines, material colors, and landscaping would be added and modulated to offset the building's massing, provide human scale, promote visual interest and articulation, and provide relief to and variation in the building form and style.

The proposed project would include a rooftop garden and amenity deck on Level 4 of the residential building. The office uses would include terraces. Figure 3-7, *Rooftop Garden, Breezeway, and Terraces*, provides a site plan and aerial perspective showing the rooftop garden and amenity deck.

Discussion

Single-family residential uses can be found to the north, east, and southeast of the Brea Plaza Shopping Center. Existing buildings on-site and directly abutting the shopping center range from one story to two stories. To the west of SR-57 is Brea Mall, City Hall, and Embassy Suites, which range in height up to seven stories. The proposed project's five-story structure would place higher density land uses east of SR-57, closer to the lower density, single-family residential uses in the City of Brea.

The new development planned for the project site is not a dramatic departure from what currently exists within the larger City of Brea. However, residential neighborhoods to the east and north of the project site are predominantly one-to-two story structures. Thus, the proposed eight-story structure would be substantially taller than the structures in the nearby single-family residential areas to the north and east. Despite the height of the proposed structure and density of residential uses proposed on the project site, the proposed project is not anticipated to result in significant aesthetic impacts. This is because the residential uses to the north are buffered by the existing two-story Mercury Insurance building and two-story story (three level) Mercury Insurance parking structure, and located over 550-feet away from the project structure. The residential neighborhood to the east is across Associated Road, over 650-feet from the proposed structure. To minimize aesthetic impacts and ensure that the proposed project would be compatible with the surrounding development, the higher density eight-story, 89-foot tall structure would be placed on the far northwestern corner of the project site, directly adjacent to the freeway; behind the Mercury Insurance building; and connected with the existing retail onsite. This placement would buffer the higher density mixed-use building from the lower density, single-family residential neighborhoods. As a result, the proposed project would not conflict with existing development in the City of Brea and the appearance and character of the proposed structures would be aesthetically compatible with adjacent land uses and land uses in the surrounding vicinity. Additionally, the proposed project would adhere to the development standards and design guidelines of the City of Brea Municipal Code (see PPP AES-1 through PPP AES-8) and General Plan, and the building design and materials would be subject to approval by the City. Overall, aesthetic impacts would not be adverse, and impacts relating to visual appearance and character would be less than significant.

Level of Significance Before Mitigation: Less Than Significant.

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Impact 5.1-2: The proposed project would not alter scenic resources within a state scenic highway. [Threshold AE-2]

As shown in Figure CR-4, Scenic Resources, of the Brea General Plan, SR-57, which bounds the shopping center to the west, is eligible for California State Scenic Highway Status, but is not officially designated a state scenic highway (Brea 2003). Development of the proposed project would occur within the Brea Plaza Shopping Center boundaries, and project implementation would not damage scenic resources, including trees, rock outcropping, and historic buildings, within a state scenic highway. Therefore, no impact would occur.

Level of Significance Before Mitigation: No Impact.

Impact 5.1-3: The proposed project would generate additional light and glare. [Threshold AE-4]

The two major causes of light pollution are glare and spill light. Spill light is caused by misdirected light that illuminates outside the intended area. Glare occurs when a bright object is against a dark background, such as oncoming vehicle headlights or an unshielded light bulb. Spill light and glare impacts are the effects of a project's exterior lighting upon adjoining uses and areas.

The Brea Plaza Shopping Center contains many existing sources of nighttime illumination. These include parking lot lights, vehicle lights, security lights, and exterior lighting on the existing commercial buildings. Additional on-site light and glare is caused by surrounding land uses and roadways, including SR-57 to the west and Imperial Highway to the south.

Nighttime Light and Glare

The proposed project would include new structures on the project site and their related lighting sources. The new structures would likely also result in more exterior glazing (e.g., windows and doors) that could result in new sources of glare. Despite new and expanded sources of nighttime illumination and glare, the proposed project is not expected to generate a substantial increase in light and glare. Lighting would be directed so as not to spill outside the project site. Because the proposed project would include a parking structure, lights from vehicles would be limited. Additionally, the proposed perimeter landscaping and proposed buildings would block glare from parked cars, traffic on surrounding roadways, and surrounding land uses. The proposed project would adhere to the development standards and design guidelines of the Brea Municipal Code (see PPP AES-2 through AES-3) to minimize light and glare impacts from onsite lighting. Therefore, new sources of lighting associated with the proposed project are considered less than significant.

The proposed project includes a digital sign on the southern façade of the five-story structure, in the northwestern corner of the Brea Plaza site. Placement of the digital sign on the southern façade would minimize light and glare impacts on motorists traveling on SR-57. The digital sign would be visible to motorists on Imperial Highway and the northbound SR-57 off-ramp. To minimize light and glare impacts, the proposed project would adhere to the development standards and design guidelines of the Brea Municipal Code Chapter 20.28, Signs (see PPP AES-4). Review and approval of the signage plan by the City and compliance with PPP AES-4 would ensure that light and glare impacts from the proposed sign program are less than significant.

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Level of Significance Before Mitigation: Less Than Significant.

Daytime Glare

The project includes building materials and architectural treatments that could cause daytime glare, but not to such an extent that they would result in a significant impact. The development of the proposed project would produce glare sources that are typical of residential and office building, such as building material (glass and light-colored building materials), glass fences, and vehicles parked and traveling along neighboring streets. However, glare from these sources are typical of the surrounding area and would not increase glare beyond what is expected for the existing Brea Plaza Shopping Center. Therefore, daytime glare impacts from the proposed project would be less than significant.

Level of Significance Before Mitigation: Less Than Significant.

5.1.5 Cumulative Impacts

Aesthetic impacts are localized to the project site and its immediate surroundings. As with the proposed project, cumulative projects within the project vicinity would not substantially alter the visual character of the project site due to the highly urbanized and developed nature of the surrounding area, which includes predominantly commercial and residential uses. Because of the highly developed nature of the project site and project vicinity, the proposed project would not negatively impact the visual character on- or off-site. Similarly, due to existence of light and glare from existing commercial uses on the project site and the commercial and residential uses surrounding the project site, the proposed project is not anticipated to add significantly to the creation of nighttime light and glare in the project vicinity. The proposed building on the project site would also create new sources of light and glare in the project vicinity, but such buildings would be surrounded by perimeter landscaping that would reduce the impacts of light and glare. Those impacts would therefore not combine with those of cumulative projects to adversely impact existing or planned sensitive receptors, such as residential uses. Therefore, the proposed project's contribution to cumulative aesthetic impacts is less than considerable, and therefore less than cumulatively significant.

5.1.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.1.7 Mitigation Measures

No mitigation measures are required.

5.1.8 Level of Significance After Mitigation

Impacts would be less than significant.

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5.1.9 References

Brea, City of. 2003, August 2019. The City of Brea General Plan.

<https://www.ci.brea.ca.us/DocumentCenter/View/61/General-Plan?bidId=>.

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5.2 AIR QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for the Brea Plaza Expansion Project (proposed project) to impact air quality in the local and regional contexts. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (South Coast AQMD). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. Criteria air pollutant emissions modeling for the proposed project is included in Appendix C1, and the construction health risk assessment (HRA) is included in Appendix C2 of this DEIR. Cumulative impacts related to air quality are based on the regional boundaries of the South Coast Air Basin (SoCAB).

5.2.1 Environmental Setting

5.2.1.1 CRITERIA AIR POLLUTANTS

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO₂, PM₁₀, and PM_{2.5} are “criteria air pollutants,” which means that ambient air quality standards (AAQS) have been established for them. VOC and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary pollutants.

Each of the primary and secondary criteria air pollutants and its known health effects are described below.

- **Carbon Monoxide** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion, engines and motor vehicles operating at slow speeds are the primary source of CO in the SoCAB. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (South Coast AQMD 2005, USEPA 2021a). The SoCAB is designated as being in attainment under the California AAQS and attainment (serious maintenance) under the National AAQS (CARB 2019).
- **Volatile Organic Compounds** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (South Coast AQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O₃, South Coast AQMD has established a significance threshold. The health effects for ozone are described below.

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- **Nitrogen Oxides** are a byproduct of fuel combustion and contribute to the formation of O₃, PM₁₀, and PM_{2.5}. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). The principal form of NO₂ produced by combustion is NO, but NO reacts with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO₂ is only potentially irritating. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm). NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure (South Coast AQMD 2005; USEPA 2021a). The SoCAB is designated as an attainment (maintenance) area under the National AAQS and attainment area under the California AAQS (CARB 2019).
- **Sulfur Dioxide** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂. When sulfur dioxide forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO₂, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing) at lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (South Coast AQMD 2005; USEPA 2021a). The SoCAB is designated as attainment under the California and National AAQS (CARB 2019).
- **Suspended Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM₁₀, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The US Environmental Protection Agency's (EPA) scientific review concluded that PM_{2.5}, which penetrates deeply into the lungs, is more likely than PM₁₀ to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (South Coast AQMD 2005). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths

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of a meter or <0.000004 inch) have human health implications because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (South Coast AQMD 2013). However, the EPA and the California Air Resources Board (CARB) have not adopted AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,¹ environmental damage,² and aesthetic damage³ (South Coast AQMD 2005; USEPA 2021a). The SoCAB is a nonattainment area for PM_{2.5} under California and National AAQS and a nonattainment area for PM₁₀ under the California AAQS (CARB 2019).⁴

- **Ozone**, or O₃, is a key ingredient of “smog” and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O₃ can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O₃ also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O₃ also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O₃ harms sensitive vegetation during the growing season (South Coast AQMD 2005; USEPA 2021a). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2019).
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (South Coast AQMD 2005; USEPA 2021a). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA’s regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found

¹ PM_{2.5} is the main cause of reduced visibility (haze) in parts of the United States.

² Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

³ Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

⁴ CARB approved the South Coast AQMD’s request to redesignate the SoCAB from serious nonattainment for PM₁₀ to attainment for PM₁₀ under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM₁₀ standards from 2004 to 2007. The EPA approved the State of California’s request to redesignate the South Coast PM₁₀ nonattainment area to attainment of the PM₁₀ National AAQS, effective on July 26, 2013.

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near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.⁵ As a result of these violations, the Los Angeles County portion of the SoCAB is designated nonattainment under the National AAQS for lead (South Coast AQMD 2012; CARB 2019). Because emissions of lead are found only in projects that are permitted by South Coast AQMD, lead is not a pollutant of concern for the project.

Table 5.2-1 summarizes the potential health effects associated with the criteria air pollutants.

Table 5.2-1 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	<ul style="list-style-type: none"> Chest pain in heart patients Headaches, nausea Reduced mental alertness Death at very high levels 	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Ozone (O ₃)	<ul style="list-style-type: none"> Cough, chest tightness Difficulty taking a deep breath Worsened asthma symptoms Lung inflammation 	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> Increased response to allergens Aggravation of respiratory illness 	Same as carbon monoxide sources
Particulate Matter (PM ₁₀ and PM _{2.5})	<ul style="list-style-type: none"> Hospitalizations for worsened heart diseases Emergency room visits for asthma Premature death 	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> Aggravation of respiratory disease (e.g., asthma and emphysema) Reduced lung function 	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	<ul style="list-style-type: none"> Behavioral and learning disabilities in children Nervous system impairment 	Contaminated soil

Source: CARB 2009; South Coast AQMD 2005.

5.2.1.2 TOXIC AIR CONTAMINANTS

People exposed to toxic air pollutants (TAC) at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2021b). By the last update to the TAC list in December 1999, CARB had

⁵ Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (South Coast AQMD 2012).

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designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. There are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most relevant to the project being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified diesel particulate matter (DPM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory systems and may exacerbate existing allergies and asthma systems (USEPA 2002).

5.2.1.3 REGULATORY BACKGROUND

AAQS have been adopted at the state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of TACs. The proposed project is in the SoCAB and is subject to the rules and regulations imposed by the South Coast AQMD, the California AAQS adopted by CARB, and National AAQS adopted by the EPA. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the project are summarized in this section.

Federal and State

Ambient Air Quality Standards

The Clean Air Act was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors” most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

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Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.2-2. These pollutants are ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, 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 5.2-2 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard ¹	Federal Primary Standard ²	Major Pollutant Sources
Ozone (O ₃) ³	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³	150 µg/m ³	
Respirable Fine Particulate Matter (PM _{2.5}) ⁴	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	30-Day Average	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m ³	
	Rolling 3-Month Average	*	0.15 µg/m ³	
Sulfates (SO ₄) ⁵	24 hours	25 µg/m ³	*	Industrial processes.

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Table 5.2-2 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard ¹	Federal Primary Standard ²	Major Pollutant Sources
Visibility Reducing Particles	8 hours	ExCo = 0.23/km visibility of 10≥ miles	No Federal Standard	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 such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016.

Notes: ppm: parts per million; µg/m³: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

¹ California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equalled 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 O₃, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/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 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.⁴ On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.⁵ On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. 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.

California has also adopted a host of other regulations that reduce criteria pollutant emissions:

- **AB 1493: Pavley Fuel Efficiency Standards.** Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025.

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- **SB 1078 and SB 107: Renewables Portfolio Standards.** A major component of California’s Renewable Energy Program is the renewables portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010.
- **20 CCR: Appliance Energy Efficiency Standards.** The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances.
- **24 CCR, Part 6: Building and Energy Efficiency Standards.** Energy conservation standards for new residential and nonresidential buildings adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977.
- **24 CCR, Part 11: Green Building Standards Code.** Establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.⁶

Tanner Air Toxics Act and Air Toxics Hot Spot Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a 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” (17 CCR § 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code § 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act set up 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 that TAC. If there is a safe threshold for a substance (i.e., a point below 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” to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk

⁶ The green building standards became mandatory in the 2010 edition of the code.

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assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **13 CCR Chapter 10 § 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.** Generally restricts on-road diesel-powered commercial motor vehicles with a gross vehicle weight rating of greater than 10,000 pounds from idling more than five minutes.
- **13 CCR Chapter 10 § 2480: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools.** Generally restricts a school bus or transit bus from idling for more than five minutes when within 100 feet of a school.
- **13 CCR § 2477 and Article 8: Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate.** Regulations established to control emissions associated with diesel-powered TRUs.

Regional

Air Quality Management Planning

South Coast AQMD is the agency responsible for improving air quality in the SoCAB and ensuring that the National and California AAQS are attained and maintained. South Coast AQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2016 AQMP

On March 3, 2017, South Coast AQMD adopted the 2016 AQMP, which serves as an update to the 2012 AQMP. The 2016 AQMP addresses strategies and measures to attain the following National AAQS:

- 2008 National 8-hour ozone standard by 2031
- 2012 National annual PM_{2.5} standard by 2025⁷
- 2006 National 24-hour PM_{2.5} standard by 2019
- 1997 National 8-hour ozone standard by 2023
- 1979 National 1-hour ozone standard by year 2022

It is projected that total NO_x emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy to meet the 1997 federal 8-hour ozone standard would also lead to attaining the 1979 federal 1-hour ozone standard by year 2022 (South Coast AQMD 2017), which requires reducing NO_x emissions in the SoCAB to

⁷ The 2016 AQMP requests a reclassification from moderate to serious nonattainment for the 2012 National PM_{2.5} standard.

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250 tpd. This is approximately 45 percent additional reductions above existing regulations for the 2023 ozone standard and 55 percent additional reductions to existing regulations to meet the 2031 ozone standard.

Reducing NO_x emissions would also reduce PM_{2.5} concentrations in the SoCAB. However, because the goal is to meet the 2012 federal annual PM_{2.5} standard no later than year 2025, South Coast AQMD is seeking to reclassify the SoCAB from “moderate” to “serious” nonattainment under this federal standard. A “moderate” nonattainment would require meeting the 2012 federal standard by no later than 2021.

Overall, the 2016 AQMP is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA (South Coast AQMD 2017).

Lead Implementation Plan

In 2008, the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead (Pb) classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in the City of Vernon and the City of Industry that exceeded the new standard in the 2007-to-2009 period. The remainder of the SoCAB, outside the Los Angeles County nonattainment area, remains in attainment of the new 2008 lead standard. On May 24, 2012, CARB approved the State Implementation Plan (SIP) revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to the EPA for approval.

South Coast AQMD Rules and Regulations

All projects are subject to South Coast AQMD rules and regulations in effect at the time of activity, including:

- **Rule 401, Visible Emissions.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is as dark as or darker than designated No. 1 on the Ringelmann Chart, as published by the US Bureau of Mines.
- **Rule 402, Nuisance.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

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- **Rule 403, Fugitive Dust.** This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities.
- **Rule 445, Wood Burning Devices.** In general, the rule prohibits new developments from the installation of wood-burning devices. This rule is intended to reduce the emission of particulate matter from wood-burning devices and applies to manufacturers and sellers of wood-burning devices, commercial sellers of firewood, and property owners and tenants that operate a wood-burning device.
- **Rule 1113, Architectural Coatings.** This rule serves to limit the VOC content of architectural coatings used on projects in the South Coast AQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the South Coast AQMD must comply with the current VOC standards set in this rule.
- **Rule 1403, Asbestos Emissions from Demolition/Renovation Activities.** The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials. All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

5.2.1.4 EXISTING CONDITIONS

South Coast Air Basin

The project area is in the SoCAB, which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (South Coast AQMD 2005).

Meteorology

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in 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 nearest

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to the project area that best represents the climatological conditions of the project area is the Yorba Linda, California Monitoring Station (ID 049847). The average low is reported at 41.7°F in January, and the average high is 88.4°F in August (WRCC 2021).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through May. Rainfall averages 14.40 inches per year in the vicinity of the project area (WRCC 2021).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of a shallow marine layer. This "ocean effect" is dominant except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds. Periods of heavy fog are frequent, especially along the coast. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (South Coast AQMD 1993).

Wind

Wind patterns across the southern coastal region are characterized by westerly or southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

Between periods of wind, periods of air stagnation may occur in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east inhibit the eastward transport and diffusion of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (South Coast AQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the "mixing height." The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (South Coast AQMD 2005).

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SoCAB Nonattainment Areas

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the SIP. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified.** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment.** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment.** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional.** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 5.2-3.

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

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	No Federal Standard
Ozone – 8-hour	Nonattainment	Extreme Nonattainment
PM ₁₀	Nonattainment	Attainment (Serious Maintenance)
PM _{2.5}	Nonattainment	Nonattainment ¹
CO	Attainment	Attainment
NO ₂	Attainment	Attainment (Maintenance)
SO ₂	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only) ²
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2019.

¹ The South Coast AQMD is seeking to reclassify the SoCAB from “moderate” to “serious” nonattainment under federal PM_{2.5} standard.

² In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new federal and existing state AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

Multiple Air Toxics Exposure Study IV

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on existing ambient concentrations of TACs and the potential health risks from air toxics in the SoCAB. In 2008, South Coast AQMD conducted its third update, MATES III, based on the Office of Environmental Health Hazards Assessment’s (OEHHA) 2003 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003 HRA Guidance Manual). The results showed that the overall risk for excess cancer from a

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lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, which accounted for 84 percent of the cancer risk (South Coast AQMD 2008a).

South Coast AQMD recently released the fourth update, MATES IV, which was also based on OEHHA's 2003 HRA Guidance Manual. The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources, and 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, which accounted for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result, the estimated basin-wide population-weighted risk decreased by approximately 57 percent since MATES III (South Coast AQMD 2015a).

The OEHHA updated the guidelines for estimating cancer risks on March 6, 2015. The new method utilizes higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, South Coast AQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher using the proposed updated methods identified in MATES IV (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (South Coast AQMD 2015a).

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project area are best documented by measurements taken by the South Coast AQMD. The proposed project is in Source Receptor Area (SRA) 16: North Orange County.⁸ The air quality monitoring station closest to the proposed project is the La Habra Monitoring Station, 3.67 miles to the northwest of the project area, which is one of 31 monitoring stations South Coast AQMD operates and maintains within the SoCAB.⁹ This station monitors one-hour and eight-hour O₃ and NO₂. Data for PM₁₀ and PM_{2.5} are supplemented by the Anaheim-Pampas Lane Monitoring Station. Data from this station are summarized in Table 5.2-4, *Ambient Air Quality Monitoring Summary*. The data show that the area regularly exceeds the state and federal one-hour and eight-hour O₃ standards within the last five recorded years. Additionally, the area has regularly exceeded the state PM₁₀ standards and the federal PM_{2.5} standard.

⁸ Per South Coast AQMD Rule 701, an SRA is defined as: "A source area is that area in which contaminants are discharged and a receptor area is that area in which the contaminants accumulate and are measured. Any of the areas can be a source area, a receptor area, or both a source and receptor area." There are 37 SRAs in South Coast AQMD's jurisdiction.

⁹ Locations of the SRAs and monitoring stations are shown here: <http://www.aqmd.gov/docs/default-source/default-document-library/map-of-monitoring-areas.pdf>.

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Table 5.2-4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Thresholds Were Exceeded and Maximum Levels ¹				
	2015	2016	2017	2018	2019
Ozone (O₃)¹					
State 1-Hour \geq 0.09 ppm (days exceed threshold)	4	3	5	3	4
State 8-hour \geq 0.07 ppm (days exceed threshold)	7	6	12	4	6
Federal 8-Hour $>$ 0.075 ppm (days exceed threshold)	2	3	8	3	3
Max. 1-Hour Conc. (ppm)	0.103	0.103	0.113	0.111	0.107
Max. 8-Hour Conc. (ppm)	0.082	0.078	0.086	0.077	0.094
Nitrogen Dioxide (NO₂)¹					
State 1-Hour \geq 0.18 ppm (days exceed threshold)	0	0	0	0	0
Federal 1-Hour \geq 0.100 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.058	0.060	0.076	0.067	0.059
Coarse Particulates (PM₁₀)²					
State 24-Hour $>$ 50 $\mu\text{g}/\text{m}^3$ (days exceed threshold)	2	3	5	2	4
Federal 24-Hour $>$ 150 $\mu\text{g}/\text{m}^3$ (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. ($\mu\text{g}/\text{m}^3$)	59.0	74.0	95.7	94.6	127.1
Fine Particulates (PM_{2.5})²					
Federal 24-Hour $>$ 35 $\mu\text{g}/\text{m}^3$ (days exceed threshold)	3	1	7	7	4
Max. 24-Hour Conc. ($\mu\text{g}/\text{m}^3$)	45.8	44.4	53.9	63.1	36.1

Source: CARB 2021.

ppm: parts per million; parts per billion, $\mu\text{g}/\text{m}^3$: micrograms per cubic meter¹ Data obtained from the La Habra Monitoring Station.² Data obtained from the Anaheim-Pampas Lane Monitoring Station.

Existing Emissions

Table 5.2-5, *Brea Plaza Existing Criteria Air Pollutant Emissions*, summarizes existing emissions associated with the daily operations of Brea Plaza. The existing plaza currently generates criteria air pollutant emissions from natural gas use for energy, heating, and cooking; vehicle trips associated with employees, vendors, and visitors to the Brea Plaza; and area sources such as landscaping equipment and consumer cleaning products.

Table 5.2-5 Brea Plaza Existing Criteria Air Pollutant Emissions

Phase	Operation-Related Regional Emissions (pounds/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area	4	<1	<1	<1	<1	<1
Energy	<1	3	3	<1	<1	<1
Mobile ¹	24	61	302	1	91	25
Total	28	65	305	1	91	25

Source: CalEEMod Version 2016.3.2.25

Notes: Based on highest winter or summer emissions.

¹ Based on year 2021 emission factors. Approximately 8,963 average daily trips are assumed for weekdays, 12,644 for Saturday, and 6,718 for Sunday (LLG 2021).

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Sensitive Receptors

Some land uses are considered more sensitive to air pollution (i.e., TACs) than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with 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 any pollutants present. 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. Exposure periods are relatively short and intermittent, because the majority of the workers tend to stay indoors most of the time. In addition, the workforce is generally the healthiest segment of the population. For air quality purposes, the nearest sensitive receptors to the project area are employees of Brea Plaza and residences to the north along Greenbriar Lane and to the west along Associated Road.

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

CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. South Coast AQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation based on substantial evidence.

Regional Significance Thresholds

South Coast AQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB, shown in Table 5.2-6. The table lists thresholds that are applicable for all projects uniformly, regardless of size or scope. There is growing evidence that although

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ultrafine particulate matter contributes a very small portion of the overall atmospheric mass concentration, it represents a greater proportion of the health risk from PM. However, the EPA and CARB have not adopted AAQS to regulate ultrafine particulate matter; therefore, South Coast AQMD has not developed thresholds for it.

Table 5.2-6 South Coast AQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Nitrogen Oxides (NO _x)	100 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Sulfur Oxides (SO _x)	150 lbs/day	150 lbs/day
Particulates (PM ₁₀)	150 lbs/day	150 lbs/day
Particulates (PM _{2.5})	55 lbs/day	55 lbs/day

Source: South Coast AQMD 2019.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Increases cancer risk (PM_{2.5}, TACs)
- Aggravates respiratory disease (O₃, PM_{2.5})
- Increases bronchitis (O₃, PM_{2.5})
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O₃)
- Reduces resistance to infections and increases fatigue (O₃)
- Reduces lung growth in children (PM_{2.5})
- Contributes to heart disease and heart attacks (PM_{2.5})
- Contributes to premature death (O₃, PM_{2.5})
- Contributes to lower birth weight in newborns (PM_{2.5}) (South Coast AQMD 2015b)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of PM_{2.5} is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists, in a landmark children's health study, found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (South Coast AQMD 2015c).

South Coast AQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SoCAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the EPA, South Coast AQMD prepares an AQMP that details regional programs to attain the AAQS. Mass emissions in Table 5.2-6 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality

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impacts in the SoCAB. The thresholds are based on the trigger levels for the federal New Source Review Program. This program was created to ensure projects are consistent with attainment of health-based federal AAQS. Regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed above. Projects that do not exceed the South Coast AQMD regional significance thresholds in Table 5.2-6 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emissions in Table 5.2-6, emissions would cumulatively contribute to the nonattainment status and would contribute to elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 5.2-6, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited above.

South Coast AQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in *Sierra Club v. County of Fresno* (Friant Ranch, L.P.) (2018) 6 Cal.5th 502, Case No. S21978. Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. However, if a project in the SoCAB exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standard is met in the SoCAB.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles and introduction of cleaner fuels, as well as implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for the attainment by South Coast AQMD did not predict a violation of

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CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods.¹⁰ As identified in South Coast AQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in years before redesignation were a result of unusual meteorological and topographical conditions and not 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 (BAAQMD 2017).¹¹

Localized Significance Thresholds

South Coast AQMD identifies localized significance thresholds (LST), shown in Table 5.2-7. Emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at a project site could expose sensitive receptors to substantial concentrations of criteria air pollutants. Off-site mobile-source emissions are not included in the LST analysis. A project would generate a significant impact if it generates emissions that would violate the AAQS, when added to the local background concentrations.

Table 5.2-7 South Coast AQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO ₂ Standard (CAAQS)	0.18 ppm
Annual NO ₂ Standard (CAAQS)	0.03 ppm
24-Hour PM ₁₀ Standard – Construction (South Coast AQMD) ¹	10.4 µg/m ³
24-Hour PM _{2.5} Standard – Construction (South Coast AQMD) ¹	10.4 µg/m ³
24-Hour PM ₁₀ Standard – Operation (South Coast AQMD) ¹	2.5 µg/m ³
24-Hour PM _{2.5} Standard – Operation (South Coast AQMD) ¹	2.5 µg/m ³
Annual Average PM ₁₀ Standard (South Coast AQMD) ¹	1.0 µg/m ³

Source: South Coast AQMD 2019.

ppm – parts per million; µg/m³ – micrograms per cubic meter

¹ Threshold is based on South Coast AQMD Rule 403. Since the SoCAB is in nonattainment for PM₁₀ and PM_{2.5}, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, South Coast AQMD developed screening-level LSTs to back-calculate the mass amount (pounds per day) of emissions generated on-site that would trigger the levels shown in Table 5.2-7 for projects

¹⁰ The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

¹¹ The CO hotspot analysis refers to the modeling conducted by the Bay Area Air Quality Management District for its CEQA Guidelines because it is based on newer data and considers the improvement in mobile-source CO emissions. Although meteorological conditions in the Bay Area differ from those in the Southern California region, the modeling conducted by BAAQMD demonstrates that the net increase in peak hour traffic volumes at an intersection in a single hour would need to be substantial. This finding is consistent with the CO hotspot analysis South Coast AQMD prepared as part of its 2003 AQMP to provide support in seeking CO attainment for the SoCAB. Based on the analysis prepared by South Coast AQMD, no CO hotspots were predicted for the SoCAB. As noted in the preceding footnote, the analysis included some of Los Angeles' busiest intersections, with daily traffic volumes of 100,000 or more peak hour vehicle trips operating at LOS E and F.

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under five acres. These “screening-level” LST tables are the localized significance thresholds for all projects of five acres and less and are based on emissions over an 8-hour period; however, they can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required.

The screening-level LSTs in SRA 16 are shown in Table 5.2-8, *South Coast AQMD Screening-Level Localized Significance Thresholds*. For construction activities, LSTs are based on the acreage disturbed per day based on equipment use (South Coast AQMD 2011) up to the project area acreage. These LSTs reflect the thresholds for non-sensitive receptors who would be onsite less than 24-hours per day (e.g., employees, hotel guests, park visitors, church parishioners), which are within 82 feet (25 meters) for NO_x and CO; and sensitive receptors who could potentially be onsite for up to 24-hours per day (e.g., residential uses), which are at 490 feet (149 meters) for PM₁₀ and PM_{2.5}.

Table 5.2-8 South Coast AQMD Screening-Level Localized Significance Thresholds

Acreage Disturbed	Threshold (lbs/day)			
	Nitrogen Oxides (NO _x) ¹	Carbon Monoxide (CO) ¹	Coarse Particulates (PM ₁₀) ²	Fine Particulates (PM _{2.5}) ²
Construction				
≤1.00 Acre LST	103	522	38.31	14.43
2.00 Acre LSTs	147	762	45.31	17.42

Source: South Coast AQMD 2008b and 2011.

Notes: In accordance with South Coast AQMD methodology, only onsite stationary sources and mobile equipment occurring on the project area are included in the analysis. LSTs are based on non-sensitive receptors within 82 feet (25 meters) for NO_x and CO; and sensitive receptors within 490 feet (149 meters) of the project area for PM₁₀ and PM_{2.5} in Source Receptor Area (SRA) 16.

Health Risk

Whenever a project would require use of chemical compounds that have been identified in South Coast AQMD Rule 1401, placed on CARB’s air toxics list pursuant to AB 1807, or placed on the EPA’s National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the South Coast AQMD. Table 5.2-9, *South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. The purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478). However, the environmental document must analyze the impacts of environmental hazards on future users when a proposed project exacerbates an existing environmental hazard or condition. Residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

Table 5.2-9 South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds

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

Source: South Coast AQMD 2019.

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5.2.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval, for air quality impacts are identified below.

- PPP AIR-1 New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2019 Building and Energy Efficiency Standards became effective January 1, 2020. The Building Energy and Efficiency Standards and CALGreen are updated tri-annually with a goal for nonresidential buildings to achieve zero net energy by 2030.
- PPP AIR-2 New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide bicycle parking for new nonresidential buildings, or meet local bicycle parking ordinances, whichever is stricter (CALGreen Sections 5.106.4.1, 14.106.4.1, and 5.106.4.1.2).
- PPP AIR-3 New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of MERV 13 filters (CALGreen Section 5.504).
- PPP AIR-4 Construction activities will be conducted in compliance with California Code of Regulations Title 13 Section 2449, which requires that nonessential idling of construction equipment is restricted to five minutes or less.
- PPP AIR-5 Construction activities will be conducted in compliance with any applicable South Coast Air Quality Management District rules and regulations, including but not limited to:
- Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance.
 - Rule 402, Nuisance, which states that 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.”
 - Rule 1113, which limits the volatile organic compound content of architectural coatings.

5.2.4 Environmental Impacts

5.2.4.1 METHODOLOGY

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be

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accommodated by the proposed project. South Coast AQMD's *CEQA Air Quality Handbook* (Handbook) and updates on its website are intended to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs, and they were used in this analysis.

Air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2.25. CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, on-road emissions, and off-road emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use. Construction criteria air pollutant emissions modeling is included in Appendix C1 of this Draft EIR. The calculated emissions of the project are compared to thresholds of significance for individual projects using South Coast AQMD's Handbook. Following is a summary of the assumptions used for the proposed project analysis.

Construction Phase

Construction would entail demolition of existing asphalt, site preparation, grading, off-site hauling of demolition debris and earthwork material, construction of the proposed structures and buildings, architectural coating, and asphalt paving on up to 2.20 acres of the 16-acre Brea Plaza. The proposed project is anticipated to be constructed over an approximately 24-month period from June 2022 to June 2024. Construction air pollutant emissions are based on the preliminary information provided by the developer and identified in Table 3-5, *Construction Phasing*.

A construction health risk assessment was conducted for the proposed project and is provided in Appendix C2. The construction HRA evaluates the potential construction-related health impacts from DPM. Sources evaluated in the construction HRA include haul trucks and off-road construction equipment such as excavators, tractors/loaders/backhoes, cranes, forklifts, generators, welders, and air compressors. The methodology used in this HRA is consistent with the OEHHA guidance documents (OEHHA 2015). Potential exposures to DPM from proposed project construction activities were evaluated for off-site sensitive receptors near the site. The EPA AERMOD air dispersion modeling program and OEHHA guidance documents were used to estimate excess lifetime cancer risks and chronic noncancer hazard indices at the nearest sensitive receptors. These risks were compared to the significance thresholds in the OEHHA guidelines.

Operational Phase

- **Transportation.** The average daily trip generation for weekday, Saturday, and Sunday trips was provided by LLG (see Appendix J2). Project-related on-road criteria air pollutant emissions are based on year 2021 emission rates for existing conditions and 2024 emission rates for the project buildout year. The primary source of mobile criteria air pollutant emissions is tailpipe exhaust emissions from the combustion of fuel (i.e., gasoline and diesel). Additionally, for criteria air pollutants, brake and tire wear along with fugitive dust created from vehicles traveling roadways also generate particulate matter.
- **Area Sources.** Area source emissions from use of consumer cleaning products, landscaping equipment, and VOC emissions from paints are based on CalEEMod default values and the square footage of the

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proposed buildings and surface parking lot areas. Area source emissions also assume operation of six barbecue grills and three firepits with a CalEEMod default energy output capacity of 60,000 BTU per hour to be in use for three hours per day over 104 days per year (weekends).

- **Energy.** Criteria air pollutant emissions from energy use (natural gas used for cooking, heating, etc.) are based on the CalEEMod defaults for natural gas usage for residential land uses. Criteria air pollutant emissions from energy use are associated with natural gas used for heating. Based on a study of the statewide impacts of the 2019 changes to the California Energy Efficiency Standards, the reductions for newly constructed multifamily residential buildings and nonresidential buildings are estimated to be 5 percent and 1 percent, respectively, for natural gas (NORESO 2018).

Proximity to SR-57

As discussed in Section 5.2.2.1 under “Health Risks,” the purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478). Additionally, the Title 24 California Building Code, Part 6, Building and Energy Efficiency Standard (Section 120.1(b)(1)(C), and Part 11, California Green Building Standard Code (CALGreen) (Nonresidential Mandatory Section 5.504.53), now require installation of Minimum Efficiency Reporting Value (MERV) 13 filters, which filter 80 to 90 percent of particulates between 1.0 to 3.0 microns and over 90 percent of particulates between 3 to 10 microns.

5.2.4.2 IMPACT ANALYSIS

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

A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the AQMP.

The regional emissions inventory for the SoCAB is compiled by South Coast AQMD and SCAG. Regional population, housing, and employment projections developed by SCAG are based, in part, on cities’ general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into SCAG’s regional transportation plan/sustainable communities strategy to determine priority transportation projects and vehicle miles traveled in the SCAG region. The AQMP strategy is based on projections from local general plans.

Changes in population, housing, or employment growth projections have the potential to affect SCAG’s demographic projections and therefore the assumptions in South Coast AQMD’s AQMP. The project would result in 229 residential units, including co-living units, and the associated parking structure in addition to new office space on the project site. As discussed in Section 5.8, *Population and Housing*, the proposed project’s

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population and employment growth would be within SCAG's forecast growth projections for the city. Additionally, the project would address the need for additional housing to accommodate population growth in the city.

Finally, implementation of the proposed project would reduce the amount of criteria air pollutants generated and would not exceed the South Coast AQMD significance thresholds for project operations (see Impact 5.2-3). South Coast AQMD's significance thresholds identify whether or not a project has the potential to cumulatively contribute to the SoCAB's nonattainment designations. Because the project would not exceed the South Coast AQMD's regional significance thresholds and growth is consistent with regional growth projections, the project would not interfere with South Coast AQMD's ability to achieve the long-term air quality goals identified in the AQMP. Therefore, the proposed project would be consistent with the AQMP and impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.2-2: Construction activities associated with the proposed project would generate short-term emissions that exceed South Coast AQMD's threshold criteria. [Thresholds AQ-2 and AQ-3]

The SoCAB is designated nonattainment for O₃ and PM_{2.5} under the California and National AAQS, nonattainment for PM₁₀ under the California AAQS,¹² and nonattainment for lead (Los Angeles County only) under the National AAQS. According to South Coast AQMD methodology, any project that does not exceed or can be mitigated to less than the daily threshold values would not add significantly to a cumulative impact (South Coast AQMD 1993).

Construction activities produce combustion emissions from various sources, such as on-site heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM₁₀ and PM_{2.5}) from demolition and soil-disturbing activities, such as grading and excavation. Air pollutant emissions from construction activities on-site would vary daily as construction activity levels change. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2.25, and are based on the preliminary construction duration and equipment mix provided by the applicant. Construction emissions modeling in Table 5.2-10, *Maximum Daily Regional Construction Emissions*, shows maximum daily emissions for VOC, NO_x, CO, SO₂, PM₁₀, and PM_{2.5} from construction-related activities would be less than their respective South Coast AQMD regional significance threshold values. Therefore, air quality impacts from project-related construction activities would be less than significant.

¹² Portions of the SoCAB along SR-60 in Los Angeles, Riverside, and San Bernardino counties are proposed nonattainment for NO₂ under the California AAQS.

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Table 5.2-10 Maximum Daily Regional Construction Emissions

Construction Phase	Pollutants (lb/day) ^{1, 2, 3}					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Year 2022						
Building Demolition	1	6	6	<1	<1	<1
Building Demolition Haul	<1	12	4	<1	3	1
Building Demolition Haul and Asphalt Demolition	1	18	10	<1	3	1
Asphalt Demolition	1	6	5	<1	<1	<1
Asphalt Demolition and Debris Haul	1	15	9	<1	2	1
Asphalt Demolition Debris Haul	<1	9	3	<1	2	<1
Site Preparation	1	7	8	<1	<1	<1
Site Preparation and Soil Haul and Rough Grading	1	14	15	<1	1	1
Rough Grading	1	6	7	<1	<1	<1
Rough Grading Soil Haul	1	44	15	<1	4	1
Rough Grading Soil Haul and Utilities Trenching	2	52	23	<1	4	1
Utility Trenching	1	7	8	<1	<1	<1
Fine Grading and Soil Haul	1	6	7	<1	<1	<1
Parking Structure Construction 2022	1	8	8	<1	1	1
Year 2023						
Parking Structure Construction 2023	1	7	8	<1	1	<1
Residential Construction 2023	1	7	9	<1	1	1
Year 2024						
Residential Construction 2024	1	6	9	<1	1	1
Residential Construction 2024 and Paving	2	14	20	<1	2	1
Residential Construction, Architectural Coating, Finishing/Landscaping	37	9	14	<1	2	1
Architectural Coating and Finishing/Landscaping	36	3	6	<1	1	<1
Maximum Daily Construction Emissions						
Maximum Daily Emissions	37	52	23	<1	4	1
South Coast AQMD Regional Construction Threshold	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2016.3.2.25.

Emissions totals may not equal 100 percent due to rounding.

¹ Modeling is conservative because the updated site plans reflect a smaller apartment building.² Based on the preliminary information provided by the Applicant. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast AQMD of construction equipment.³ Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.**Level of Significance Before Mitigation:** Less Than Significant.

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Impact 5.2-3: Long-term operation of the project would not generate additional vehicle trips and associated emissions in exceedance of South Coast AQMD's threshold criteria. [Thresholds AQ-2 and AQ-3]

Regional Operational Emissions

Buildout of the proposed project would generate an increase in criteria air pollutant emissions from area sources (e.g., landscaping equipment, architectural coating) and energy (i.e., natural gas used for heating and cooking). The proposed project would result in the development of 189 residential units (including co-living units) and a new office building on the project site. As a result of the removal of the 1,100-seat movie theater at the Brea Plaza shopping center, the proposed project would result in a reduction of daily vehicle trips (see Section 5.11, *Transportation*) and associated mobile-source emissions. The proposed buildings would, at minimum, be designed and built to meet the 2019 Building Energy Efficiency Standards and the 2019 CALGreen standards. As shown in Table 5.2-11, *Brea Plaza Mixed-Use Project Regional Operation Emissions*, the net changes in maximum daily emissions from operation-related activities would be less than their respective South Coast AQMD regional significance threshold values. The reduction in criteria air pollutant emissions would be a project benefit because there would be an overall reduction in NO_x, CO, SO₂, PM₁₀, and PM_{2.5} emissions. Therefore, impacts to the regional air quality associated with operation of the project would be less than significant.

Table 5.2-11 Brea Plaza Mixed-Use Project Regional Operation Emissions

Source	Maximum Daily Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Existing Brea Plaza						
Area	4	<1	<1	<1	<1	<1
Energy ¹	<1	3	3	<1	<1	<1
Mobile ²	19	42	249	1	90	25
Total	23	46	252	1	91	25
Proposed Brea Plaza						
Area	10	<1	19	<1	<1	<1
Energy ¹	<1	4	3	<1	<1	<1
Mobile ²	16	35	213	1	78	21
Total	26	39	235	1	78	22
Net Change (Proposed Project)						
Area	6	<1	19	<1	<1	<1
Energy ¹	<1	1	<1	<1	<1	<1
Mobile ²	-3	-7	-35	<1	-13	-3
Total Net Change	3	-6	-16	<1	-12	-3
South Coast AQMD Regional Threshold	55	55	550	150	150	550
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2016.3.2.25 Highest winter or summer emissions are reported.

Notes: lbs: Pounds.

¹ The default historic electricity and natural gas rates in CalEEMod were used for the existing Brea Plaza buildings that would remain and new structures that would be constructed to achieve the 2019 Building and Energy Efficiency Standards based on the NORESO study (NORESOS 2018).

² Based on 2024 emission rates.

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Impact 5.2-4: Construction activities associated with the proposed project would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-3]

This impact analysis describes changes in localized impacts from short-term construction activities. The proposed project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevated levels. Unlike the mass of emissions shown in the regional emissions analysis in Table 5.2-10, described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu\text{g}/\text{m}^3$) and can be correlated to potential health effects.

Construction-Phase LSTs

Screening-level LSTs (pounds per day) are the amount of project-related mass emissions at which localized concentrations (ppm or $\mu\text{g}/\text{m}^3$) could exceed the AAQS for criteria air pollutants for which the SoCAB is designated nonattainment. The screening-level LSTs are based on the project area size and distance to the nearest sensitive receptor and are based on the California AAQS, which are the most stringent AAQS established to protect sensitive receptors most susceptible to respiratory distress. Table 5.2-12, *Construction Emissions Compared to the Screening-Level LSTs*, shows the maximum daily construction emissions (pounds per day) generated during on-site construction activities at the project area compared with the South Coast AQMD's screening-level LSTs thresholds. On-site emissions include fugitive dust emissions and exhaust emissions associated with operation of off-road construction equipment in addition to fugitive dust from the movement of dirt. As shown in the table, the maximum daily NO_x , CO, PM_{10} , and $\text{PM}_{2.5}$ construction emissions from on-site construction-related activities would be less than their respective South Coast AQMD screening-level LSTs. Consequently, construction activities would not expose sensitive receptors to substantial concentrations of air pollutants. Impacts would be less than significant.

Table 5.2-12 Construction Emissions Compared to the Screening-Level LSTs

	Pollutants(lbs/day) ^{1,2}			
	NO_x	CO	PM_{10}^3	$\text{PM}_{2.5}^3$
South Coast AQMD ≤ 1.00 Acre LST	103	522	38.31	14.43
Building Demolition	6	6	0.37	0.23
Building Demolition Haul	12	4	2.91	0.60
Building Demolition Haul and Asphalt Demolition	18	10	3.18	0.80
Asphalt Demolition	6	5	0.27	0.20
Asphalt Demolition and Debris Haul	15	9	2.39	0.64
Asphalt Demolition Debris Haul	9	3	2.13	0.44
Site Preparation	7	8	0.35	0.28
Rough Grading	6	7	0.33	0.26
Rough Grading Soil Haul	44	15	3.89	1.17
Utility Trenching	7	8	0.34	0.27
Fine Grading and Soil Haul	6	7	0.33	0.26
Parking Structure Construction 2022	8	8	1.12	0.50
Parking Structure Construction 2023	7	8	1.08	0.47
Residential Construction 2023	7	9	1.33	0.54

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Table 5.2-12 Construction Emissions Compared to the Screening-Level LSTs

	Pollutants (lbs/day) ^{1,2}			
	NO _x	CO	PM ₁₀ ³	PM _{2.5} ³
Residential Construction 2024	6	9	1.31	0.51
Residential Construction 2024 and Paving	14	20	1.80	0.86
Residential Construction, Architectural Coating, Finishing/Landscaping	9	14	1.88	0.75
Architectural Coating and Finishing/Landscaping	3	6	0.57	0.24
Exceeds LST?	No	No	No	No
South Coast AQMD 2.00 Acre LSTs	147	762	45.31	17.42
Site Preparation and Rough Grading	14	15	0.69	0.53
Rough Grading Soil Haul and Utilities Trenching	52	23	4.24	1.44
Exceeds LST?	No	No	No	No

Sources: CalEEMod Version 2016.3.2.25, and South Coast AQMD 2008b and 2011.

Notes: In accordance with South Coast AQMD methodology, only onsite stationary sources and mobile equipment occurring on the project area are included in the analysis. LSTs are based on non-sensitive receptors within 82 feet (25 meters) for NO_x and CO; and sensitive receptors within 490 feet (149 meters) of the project area for PM₁₀ and PM_{2.5} in Source Receptor Area (SRA) 16.

¹ Modeling is conservative because the updated site plans reflect a smaller apartment building.

² Based on information provided or verified by the Applicant. Where specific information regarding project-related construction activities or processes was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by the South Coast AQMD.

³ Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

Construction Health Risk

The proposed project would elevate concentrations of TACs and PM_{2.5} in the vicinity of sensitive land uses during construction activities. The nearest sensitive receptors to the project site are the residents to the north along Greenbriar Lane and to the east across Associated Road. Consequently, a site-specific construction HRA of TACs and PM_{2.5} was prepared (see Appendix C2).

The EPA's AERMOD, Version 9.9, dispersion modeling program was used to estimate excess lifetime cancer risk and chronic noncancer hazard index for noncarcinogenic risk from annual concentrations at the nearest sensitive receptors. The results of the analysis are shown in Table 5.2-13, *Construction Risk Summary*.

Table 5.2-13 Construction Risk Summary

Receptor	Cancer Risk (per million)	Chronic Hazards
Maximum Exposed Receptor – Off-Site Resident	3.1	0.007
South Coast AQMD Threshold	10	1.0
Exceeds Threshold?	No	No

Source: Appendix C2.

Note: Cancer risk calculated using 2015 OEHHA HRA guidance.

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The results of the HRA are based on the maximum receptor concentration over an approximately 24-month construction exposure duration for off-site receptors.¹³ Risk is based on the updated OEHHA Guidance Manual (OEHHA 2015):

- Cancer risk for the maximum exposed off-site resident from construction activities related to the proposed project was calculated at 3.1 in a million and would not exceed the 10 in a million-significance threshold. Using the latest 2015 OEHHA Guidance Manual, the calculated total cancer risk conservatively assumes that the maximum exposed receptor is a pregnant woman in the third trimester that subsequently gives birth to an infant during the approximately 24-month construction period; therefore, all calculated risk values were multiplied by a factor of 10. In addition, it was conservatively assumed that residents were outdoors 8 hours a day, 260 construction days per year and exposed to all of the daily construction emissions.
- For noncarcinogenic effects, the chronic hazard index identified for each toxicological endpoint totaled less than one for all the off-site sensitive receptors. Therefore, chronic noncarcinogenic hazards are within acceptable limits.

Consequently, the project would not expose sensitive receptors to substantial concentrations of air pollutant emissions during construction.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.2-5: Operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-3].

This impact analysis describes changes in localized impacts from long-term operation of the project. The proposed project could expose sensitive receptors to elevated pollutant concentrations during operational activities if it would cause or contribute significantly to elevated levels. Unlike the mass of emissions shown in the regional emissions analysis in Table 5.2-11, which is described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu\text{g}/\text{m}^3$) and can be correlated to potential health effects.

Operational Phase LSTs

Operation of the proposed project would not generate substantial quantities of emissions from on-site, stationary sources. Land uses that have the potential to generate substantial stationary sources of emissions require a permit from South Coast AQMD, such as chemical processing or warehousing operations where substantial truck idling could occur on-site. The proposed project does not fall within these categories of uses. While operation of the proposed project could result in the use of standard on-site mechanical equipment such as heating, ventilation, and air conditioning units in addition to occasional use of landscaping equipment for

¹³ The 2015 Office of Environmental Health Hazard Assessment Air Toxics Hot Spots Program Guidance Manual identified that exposure duration has changed from 70 years to 30 years for operational risk to residents; however, the risk is still averaged over a 70-year lifetime.

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project area maintenance, air pollutant emissions generated would be small. Therefore, net localized air quality impacts from project-related operations would be less than significant.

Carbon Monoxide Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hot spots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. The SoCAB has been designated as attainment under both the national and California AAQS for CO. 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 mixing is substantially limited—in order to generate a significant CO impact (BAAQMD 2017). The proposed project would generate a maximum of 516 PM peak hour trips on weekdays and 772 PM peak hour trips on weekends (LLG 2021). Implementation of the project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the project.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.2-6: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. [Threshold AQ-4]

The threshold for odor is if a project creates an odor nuisance pursuant to South Coast AQMD Rule 402, Nuisance, which states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities.

The proposed project would develop and continue to operate retail (including restaurants), residential uses, and office uses, which would not fall within the types of uses that are associated with foul odors that constitute a public nuisance. During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. However, construction-related odor emissions would be temporary and intermittent and would not affect a significant number or people.

Level of Significance before Mitigation: Less Than Significant.

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5.2.5 Cumulative Impacts

In accordance with South Coast AQMD's methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Consistent with the methodology, projects that do not exceed the regional significance thresholds would not result in significant cumulative impacts. Cumulative projects in the local area include new development and general growth in the proposed project area. The greatest source of emissions in the SoCAB is mobile sources. Due to the extent of the area potentially impacted by cumulative emissions (i.e., the SoCAB), South Coast AQMD considers a project cumulatively significant when project-related emissions exceed the South Coast AQMD regional emissions thresholds shown in Table 5.2-6 (South Coast AQMD 1993).

5.2.5.1 CONSTRUCTION

The SoCAB is designated nonattainment for O₃ and PM_{2.5} under the California and National AAQS and nonattainment for PM₁₀ and lead (Los Angeles County only) under the National AAQS. Construction of cumulative projects will further degrade the regional and local air quality. As shown in Table 5.2-9, project-related construction activities would not generate short-term emissions that exceed the South Coast AQMD regional emissions thresholds. In addition, construction of the proposed project would not exceed localized significance thresholds. Therefore, the proposed project's contribution to cumulative air quality impacts would not be cumulatively considerable.

5.2.5.2 OPERATION

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values would not be considered by South Coast AQMD to be a substantial source of air pollution and does not add significantly to a cumulative impact. Operation of the proposed project, as shown in Table 5.2-11, would result in an overall reduction in emissions from existing conditions for most pollutants and, thus, would not result in emissions that exceed the South Coast AQMD regional emissions thresholds. In addition, no significant impacts were identified for CO hotspots. Therefore, the proposed project's contribution to cumulative air quality impacts would not be cumulatively considerable.

5.2.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, these impacts would be less than significant: 5.2-1, 5.2-2, 5.2-3, 5.2-4, 5.2-5, and 5.2-6.

5.2.7 Mitigation Measures

No mitigation measures are required.

5.2.8 Level of Significance After Mitigation

Impacts would be less than significant.

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5.2.9 References

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5.3 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the proposed Brea Plaza Expansion Project (proposed project) to impact cultural and paleontological resources in the City of Brea. With the update of the CEQA Guidelines approved in December 2018, impacts to paleontological resources moved to the Geology and Soils section of the Appendix G checklist. However, geology and soils questions have been scoped out of the DEIR. Therefore, this DEIR analyzes paleontological resources as part of this section. See Chapter 8, *Impacts Found Not to Be Significant*, for an analysis of the project impacts to geology and soils.

Cultural resources consist of archaeological and historical resources. Paleontological resources are the fossilized remains of plants and animals. Archaeology is the branch of paleontology that studies human artifacts, such as places, objects, and settlements that reflect a 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. The analysis in this section is based in part on the following information:

- *Records Search Results for the Brea Plaza Shopping Center*, South Central Coastal Information Center (SCCIC), September 17, 2020

A complete copy of this study is included in Appendix C of this DEIR.

5.3.1 Environmental Setting

5.3.1.1 REGULATORY BACKGROUND

Federal

National Historic Preservation Act

The National Historic Preservation Act of 1966 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, which lists districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.

Section 106 (Protection of Historic Properties) of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. Section 106 Review ensures that 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 state historic preservation offices.

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National Register of Historic Places

The National Register of Historic Places (NRHP) is authorized by the National Historic Preservation Act of 1966 (Code of Federal Regulations, Title 36, Chapter I, Part 60). It is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation because of their significance in American history, architectures, archaeology, engineering, and culture. The NRHP recognizes resources of local, state, and national significance that have been documented and evaluated according to uniform standards and criteria.

The NRHP is administered by the National Park Service. Properties are nominated to the NRHP by the State Historic Preservation Officer of the state in which the property is located, by the Federal Preservation Officer for properties under federal ownership or control, or by the Tribal Historic Preservation Officer if a property is on tribal lands.

To be eligible for listing in the National Register, a resource must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of history.
- B. Is associated with the lives of persons in our past.
- C. Embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- D. Has yielded, or may be likely to yield, information important in prehistory or history.

A final critical component of eligibility is "integrity." Integrity refers to the ability of a property to convey its significance and the degree to which the property retains the identity, including physical and visual attributes, for which it is significant under the four basic criteria. The NRHP criteria recognize seven aspects or qualities of integrity: location, design, setting, materials, workmanship, feeling, association.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 regulates the protection of archaeological resources and sites on federal and Indian lands.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act was established in the Omnibus Public Land Management Act of 2009 and regulates the management, collection, and curation of paleontological resources from national forest systems' lands.

Preservation of American Antiquities

The Federal Antiquities Act of 1906 was enacted with the primary goal of protecting cultural resources in the United States. It explicitly prohibits appropriation, excavation, injury, and destruction of any "historic or prehistoric ruin or monument, or any object of antiquity" on lands owned or controlled by the federal

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government without permission of the secretary of the federal department with jurisdiction. It also established criminal penalties for these acts, including fines and/or imprisonment. Neither the Antiquities Act itself nor its implementing regulations specifically mention paleontological resources. However, several federal agencies—including the National Park Service, the Bureau of Land Management, and the US Forest Service—have interpreted objects of antiquity to include fossils. Consequently, the Antiquities Act also represents an early cornerstone for efforts to protect the nation’s paleontological resources.

Native American Graves Protection and Repatriation Act

NAGPRA is a federal law passed in 1990 that mandates 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 or culturally affiliated Indian tribes.

State

California Register of Historical Resources

The State Historical Resources Commission designed this program for state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California’s historical resources. The California Register of Historical Resources (CRHR) is the authoritative guide to the state’s significant historical and archaeological resources.

The CRHR program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies historical resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under CEQA.

To be eligible for listing in the CRHR, a resource must meet at least one of the following criteria:

- A. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
- B. Associated with the lives of person important to local, California or national history.
- C. Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values.
- D. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation. (California Public Resources Code [PRC] Section 5024.1[c])

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired or significant individuals made their important contributions. Integrity is the authenticity of a historical resource’s physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource’s period of significance. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. In summary, resources must retain enough of their historic character or appearance

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to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion D, it maintains the potential to yield significant scientific or historical information or specific data.

California Public Resources Code

Archaeological, paleontological, and historical sites are protected under a wide variety of state policies and regulations in the California Public Resources Code. In addition, cultural and paleontological resources are recognized as nonrenewable resources and receive protection under the PRC and CEQA.

PRC Sections 5020 to 5029.5 continued the former Historical Landmarks Advisory Committee as the State Historical Resources Commission. The commission oversees the administration of the CRHR and is responsible for designating State Historical Landmarks and Historical Points of Interest.

PRC Sections 5079 to 5079.65 define the functions and duties of the Office of Historic Preservation, which administers federal- and state-mandated historic preservation programs in California as well as the California Heritage Fund.

PRC 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; require that descendants be notified when Native American human remains are discovered; and provide for treatment and disposition of human remains and associated grave goods.

Local

City of Brea General Plan

The City of Brea General Plan (2003) identifies Historic Brea—which includes neighborhoods in the southwest portion of the city—as well as goals to preserve Brea’s unique historic and cultural resources and neighborhoods. The Community Resources Element of the General Plan includes a section on historic resources and provides goals for preserving historical resources, encouraging rehabilitation, and ensuring all residents are aware of the importance of historic preservation.

City of Brea Municipal Code

Chapter 20.60, Historic Preservation, promotes the historic, cultural, educational, economic, and general welfare of the community by ensuring development is consistent with the Land Use, Housing, and Historic Resource elements of the Brea General Plan; establishing mechanisms to identify and preserve historic and architectural characteristics of Brea; and encouraging preservation, restoration, and rehabilitation of resources, thereby preventing blight. Chapter 20.60 also includes criteria for what is potentially a local historic resource.

5.3.1.2 EXISTING CONDITIONS

The Brea Plaza Shopping Center encompasses approximately 165,329 square feet of commercial uses. The shopping center includes a mix of tenants, including Mothers Market (north side), Buc di Beppo (west side),

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Lucille's Smokehouse Bar-B-Que (south side), Chick-fil-A (south side), Friar Tux (northeast side), Total Wine and More (west side), Custom Comfort Mattress (northwest side), Grand Salon (west side), and Brea Plaza 5 Cinemas (northwest side).

Cultural Setting

Prehistoric Resources

The Puente and Carbon Canyon Hills lie within an area considered by archaeologists and ethnologists to have been inhabited prehistorically by the Gabrieleno (Brea 2003a). Only a small portion of Brea has been surveyed for archaeological resources, so the full extent of archaeological resources in Brea is not known.

Historical Resources

The land that composes the City of Brea used to be part of land holdings of the San Gabriel Mission, established in 1771 by the Franciscan padres. During the Mission period and subsequent Rancho era, vast herds of Mexican cattle pastured on all the land in and surrounding Brea (Brea 2003b). In 1863, Brea and thousands of acres of rancho lands were acquired by Abel Stearns, who later leased land to sheep ranchers.

Sheep ranching and oil production were the predominant business activities during the latter half of the 1800s, and the Puente Hills and Brea Canyon supported substantial petroleum production. The first village in Brea was called Olinda and was originally situated where Carbon Canyon Regional Park lies today (Brea 2003b). Along with the oil boom, land in and around the city began converting from sheep ranchers to orange groves.

Cultural Resources Records Search

The South Central Coastal Information Center (SCCIC) conducted a records search for the project site and a one-mile radius. The search included a review of all recorded archaeological and built-environment resources and a review of cultural resources reports. The California Points of Historical Interest, California Historical Landmarks, CRHR, NRHP, and the California State Historic Properties Directory listings were also reviewed as part of the SCCIC records search. According to the records search results, no archaeological resources were recorded for the project site; however, two archaeological resources were identified within a half-mile radius.

Paleontological Setting

The bedrock in the Puente Hills is composed of Miocene deposits called the Puente Formation, a fossiliferous deposit composed mostly of diatomaceous shales and possible vertebrate fossil fauna. The Puente Formation is well documented to contain abundant fossil specimens, including whales, porpoises, fish, sea lions, shark teeth, other bony fish, leaves, and marine invertebrates. In addition, significant vertebrate fossils, principally land mammals and birds, have been found in Quaternary (Pleistocene Ice Age and recent) terrestrial deposits throughout Orange County (Brea 2003a). The Los Coyotes area in the northern portion of Orange County is identified as one of the most prolific and scientifically valuable fossil deposits in the

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nation (Orange 2005). Subsurface resources such as archaeological and paleontological sites are abundant in the southern portion of Orange County along the coasts and in creek areas (Orange 2005).

5.3.2 Thresholds of Significance

CEQA Guidelines Section 15064.5 provides direction on determining significance of impacts to archaeological and historical resources. Generally, a resource shall be considered “historically significant” if the resource meets the criteria for listing on the CRHR:

- Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- Is associated the with lives of persons important in our past;
- 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
- Has yielded, or may be likely to yield, information important in prehistory or history. (PRC Section 5024.1; California Code of Regulations, Title 14, Section 4852)

The fact that a resource is not listed in the CRHR, not determined to be eligible for listing, or not included in a local register of historical resources does not preclude a lead agency from determining that it may be a historical resource.

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.
- C-4 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

5.3.2.1 CITY OF BREA SIGNIFICANCE CRITERIA

Historic Resources

To evaluate historic resources in Brea, municipal code Chapter 20.60, Section 20.60.030, Criteria for Designation of Individual Historic Resources, provides criteria to supplement CEQA Guidelines Section 15064.5:

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- If the resource exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history;
- If the resource is identified with persons or events significant in local, state, or national history;
- If it embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship;
- If it is representative of the work of a notable builder, designer, or architect;
- If it contributes to the significance of a historic area, being a geographically definable area possessing a concentration of historic or scenic properties or thematically related grouping of properties which contribute to each other and are unified aesthetically by plan or physical development;
- If it embodies elements of architectural design, detail, materials, or craftsmanship that represent a significant structural or architectural achievement or innovation;
- If it reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning;
- If it is one of the few remaining examples in the city, region, state, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.

5.3.3 Plans, Programs, and Policies

These plans, programs, and policies (PPP) include applicable regulatory requirements and conditions of approval for cultural and paleontological impacts.

- | | |
|-----------|--|
| PPP CUL-1 | Native American historical and cultural resources and sacred sites are protected under PRC Sections 5097.9 to 5097.991, which require that descendants be notified when Native American human remains are discovered and provide for treatment and disposition of human remains and associated grave goods. |
| PPP CUL-2 | The removal, without permission, of any paleontological site or feature is prohibited from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation or any agency thereof (PRC Section 5097.5). This applies to agencies' own activities, including construction and maintenance, and permit actions by others. |
| PPP CUL-3 | Adverse impacts to paleontological resources from developments on public lands (state, county, city, and district) require reasonable mitigation. (PRC Section 5097.5) |
| PPP CUL-4 | If human remains are discovered within a project site, disturbance of the site must stop until the coroner has investigated and made recommendations for the treatment and disposition of the human remains to the person responsible for the excavation, or to his or her authorized representative. If the coroner has reason to believe the human remains are those |

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of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. (California Health and Safety Code Section 7050.5)

5.3.4 Environmental Impacts

Impact 5.3-1: Development of the project could impact an identified historic resource. [Threshold C-1]

An SCCIC records search for the project site included review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports. The California Points of Historical Interest, California Historical Landmarks, CRHR, NRHP, and the California State Historic Properties Directory listings were also reviewed. Based on the results of the records search, the project site is not listed on a national, state, or local historic registry.

Also, no resources within a quarter mile of the site are listed on the California Points of Historical Interest, California Historical Landmarks, CRHR, and NRHP (SCCIC 2020). Brea General Plan Figure CR-6, Historic Resources, shows that the nearest historic resource to the project site is the locally designated “Practice House,” 0.6 mile to the west. The Brea Plaza Shopping Center began its operations in the 1980s and is not identified as a local, state, or national historic resource. Figure CR-6 of the General Plan shows no resources on the project site identified as City of Brea Historic Resources, CRHR, or NRHR (Brea 2003b). Construction would occur within the footprint of the project sit; therefore, no impact would occur.

Level of Significance Before Mitigation: No Impact.

Impact 5.3-2: Development of the project could impact archaeological resources. [Threshold C-2]

Only a small portion of Brea has been surveyed for archaeological resources, so the full extent of archaeological resources in Brea is not known (Brea 2003a). The project site has been evacuated, graded, paved, and is developed as a shopping center. Therefore, the surface and subsurface have been previously disturbed. The project site would require demolition, ground clearing, excavation, grading, and other construction activities. According to the records search, there are no Archaeological Determinations of Eligibility on the project site (i.e., archaeological resources assessed by the Office of Historic Preservation with respect to National Register eligibility) (SCCIC 2020), but two archaeological resources have been found within a half-mile radius of the site (SCCIC 2020). The Native American Heritage Commission’s Sacred Land Files record search found no tribal resources on the site (see Section 5.12, *Tribal Cultural Resources*).

Although archaeological resources were not identified on the project site and the project site is developed, the project would require excavations below the current foundations, and it is possible that subsurface archaeological resources may be encountered. Therefore, the proposed project could potentially unearth previously unknown/unrecorded archaeological resources.

Level of Significance Before Mitigation: Potentially Significant.

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Impact 5.3-3: Grading activities could potentially disturb human remains, but compliance with existing regulations would ensure that impacts are less than significant. [Threshold C-3]

The project site is currently developed and would require demolition, ground clearing, excavation, grading, and other construction activities to accommodate the proposed improvements on-site. California Health and Safety Code, Section 7050.5; CEQA Section 15064.5; and Public Resources Code, Section 5097.98, mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Specifically, California Health and Safety Code, Section 7050.5, requires that disturbance of the site shall halt until the coroner has investigated the circumstances, manner, and cause of death and made the recommendations concerning the treatment and disposition of the human remains to the person responsible for the excavation, or to his or her authorized representative, according to PRC Section 5097.98. If the coroner determines that the remains are not subject to his or her authority and has reason to believe they belong to a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. In the unlikely event soil-disturbing activities associated with the proposed project would result in the discovery of human remains, compliance with existing law (see PPP CUL-4) would ensure that impacts to human remains would not be significant.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.3-4: Development of the project could impact paleontological resources or unique geologic features. [Threshold C-4]

The bedrock in the Puente Hills is composed of later Miocene deposits called Puente Formation, and Quaternary (Pleistocene Ice Age and recent) terrestrial deposits are found throughout Orange County (Brea 2003a). The project site has been graded, paved, and developed with a shopping center; no unique geologic features are on-site. The proposed project would require ground clearing, excavation, grading, and other construction activities to accommodate utilities. Due to the ground disturbance associated with construction, there is potential that natural landform beneath the site would be encountered during construction and that subsurface resources and/or paleontological resources would be discovered.

Level of Significance Before Mitigation: Potentially Significant.

5.3.5 Cumulative Impacts

The area considered for cumulative impacts to historic and archaeological resources is a half-mile radius around the project site. Two archaeological resources were identified within a half mile of the site according to SCCIC's records search. Other projects in the region could demolish or otherwise alter historical and archaeological resources. Other projects would be required to comply with CEQA Guidelines Section 15064.5, which requires the lead agency to determine if discovered resources are unique or historically significant, and if so, to avoid or mitigate impacts to such resources in accordance with the provisions of PRC Section 21083.2. The project would not result in a cumulatively considerable impact to cultural or paleontological resources.

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5.3.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.3-1 and 5.3-3.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.3-2** Development of the project could result in the discovery of subsurface archaeological resources.
- **Impact 5.3-4** Development of the project could result in the discovery of paleontological resources.

5.3.7 Mitigation Measures

Impact 5.3-2

CUL-1 If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall cease, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find(s). If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted and will be reported to the City.

Impact 5.3-4

CUL-2 Monitoring of mass grading and excavation activities in the areas identified as likely to contain paleontological resources by a qualified paleontologist. A paleontologist shall be on call in the event that paleontological resources are found during ground-disturbing activities. The paleontologist shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossils. The paleontologist shall be empowered to temporarily halt or divert equipment to allow for the removal of abundant or large specimens in a timely manner.

5.3.8 Level of Significance After Mitigation

Impact 5.3-2

The proposed project could potentially unearth previously unknown/unrecorded archaeological resources. Mitigation Measure CUL-1 would require that a qualified archaeological monitor be contacted in the event that cultural resources are uncovered during ground-disturbing activities. In the event resources are uncovered, Mitigation Measure CUL-1 requires additional work such as data recovery, and the find would be reported to the City. Mitigation Measure CUL-1 would reduce potential impacts to archaeological resources to a level that is less than significant. Impact 5.3-2 would be less than significant with mitigation.

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Impact 5.3-4

Due to the ground disturbance associated with construction, there is potential that natural landform beneath the site would be encountered during construction and that subsurface resources and/or paleontological resources would be discovered. Mitigation Measure CUL-2 requires a qualified paleontologist to be on-call if paleontological resources are discovered during ground-disturbing activities, and allows the paleontologist to temporarily halt activities. Mitigation Measure CUL-2 would reduce potential impacts to paleontological resources to a level that is less than significant. Impact 5.3-4 would be less than significant with mitigation.

5.3.9 References

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5.4 ENERGY

This section of the Draft Environmental Impact Report (DEIR) presents a summary of the proposed project's anticipated energy needs, impacts, and conservation measures. Information found herein, as well as other aspects of the project's energy implications, are discussed in Chapter 3, *Project Description*, and Sections 5.2, *Air Quality*, 5.5, *Greenhouse Gas Emissions*, and 5.10, *Transportation*. This section also relies on the results of a CalEEMod estimation of fuel for construction, found in Appendix C1 of this DEIR.

5.4.1 Environmental Setting

5.4.1.1 REGULATORY BACKGROUND

Federal

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 was established in response to the 1973 oil crisis. The act created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of U.S. crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE) standards for passenger cars starting in model year 1978. The CAFE Standards are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

The federal government issued new CAFE standards in 2012 for model years 2017 to 2025 that required a fleet average of 54.5 miles per gallon (mpg) for model year 2025. However, on March 30, 2020, the Environmental Protection Agency (USEPA) finalized an updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021–2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 mpg for model year 2026 vehicles (85 Federal Register 24174, April 30, 2020). However, per Executive Order 13990 issued by President Biden on January 20, 2021, the USEPA is reconsidering SAFE for the purpose of rescinding the rule by July 2021.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) 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 standards; the renewable fuel standard; 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 (USEPA 2019).

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State

Warren-Alquist Act

Established in 1974, the Warren-Alquist Act created the California Energy Commission (CEC) in response to the energy crisis of the early 1970s and the state's unsustainable growing demand for energy resources. The CEC's core responsibilities include advancing State energy policy, encouraging energy efficiency, certifying thermal power plants, investing in energy innovation, developing renewable energy, transforming transportation, and preparing for energy emergencies. The Warren-Alquist Act is updated annually to address current energy needs and issues, and its latest edition was in January 2020.

Renewables Portfolio Standard

The California Renewables Portfolio Standard (RPS) was established in 2002 under SB 1078 and was amended in 2006, 2011, and 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 is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the state. Based on the 3rd quarter 2016 report, the three largest retail energy utilities provided an average of 27.6 percent of their supplies from renewable energy sources. Since 2003, 15,565 megawatts (MW) of renewable energy projects have started operation (CPUC 2016).

Senate Bill 350

SB 350 (de Leon) was signed into law September 2015 and established 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.

Senate Bill 100

On September 10, 2018, SB 100 was signed, replacing the SB 350 requirements. Under SB 100, the RPS for publicly owned facilities and retail sellers will consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill established an overall State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations (California Code of Regulations [CCR], Title 20, Parts 1600 to 1608) contain energy performance, energy design, water performance, and water design standards for appliances (including 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

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sale in California. These standards are updated regularly to allow consideration of new energy efficiency technologies and methods (CEC 2017b).

Title 24, Part 6, Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2019 (24 CCR Part 6). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect starting January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less (CBSC 2019a). The 2019 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 nonresidential ventilation requirements; and 4) nonresidential lighting requirements (CEC 2018a). Based on a study of the statewide impacts of the 2019 changes to the California Energy Efficiency Standards, the reductions for newly constructed multifamily residential buildings are estimated to be 2 percent for electricity and 5 percent for natural gas. Newly constructed nonresidential buildings are estimated to have an 11 percent reduction for electricity and 1 percent for natural gas (NORESO 2018).

Title 24, Part 11, Green Building Standards

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards—CALGreen (24 CCR Part 11)—as part of the California Building Standards Code. It includes mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the governor. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen update became effective on January 1, 2020.

Overall, the code is 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 has 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. The code provides for design options, allowing the designer to determine how best to achieve compliance for a given site or building condition. The code 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 2019b).

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Local

City of Brea Sustainability Plan

The City of Brea Sustainability Plan: Leadership in Energy Efficiency was adopted in 2012. It presents resource efficiency goals, matched with policies and implementation steps to save energy, water, and other resources, while aligning the City of Brea for AB 32 compliance. The Sustainability Plan focuses on creating a sustainable future for the city and offers goals and policies that address energy efficiency and conservation for the residential, business, building, transportation, municipal, hospitality, and education sectors. The most relevant goal and policies are:

- **Build 1** Maximize cost-effective energy efficiency in new construction and existing facilities.
 - **Build 1.1.** Promote programs that support efficiency in new construction.
 - **Build 1.3.** Promote green building measures and renewable energy installations.

5.4.1.2 EXISTING CONDITIONS

Electricity

Electricity is quantified using kilowatts (kW) and kilowatt-hours (kWh). A kW is a measure of 1,000 watts of electrical power and a kWh is a measure of electrical energy equivalent to a power consumption of 1,000 watts for 1 hour. The kWh is commonly used as a billing unit for energy delivered to consumers by electric utilities. According to the CEC's "Tracking Progress" regarding statewide energy demand, total electric energy usage in California was 279,402 gigawatt hours in 2019 (CEC 2021a). A gigawatt is equal to one billion (10⁹) watts or 1,000 megawatts (1 megawatt = 1,000 kW).

The electricity supply for the City of Brea is provided by Southern California Edison (SCE). Total electricity consumption in SCE's service area was 105,162 gigawatt hours in 2019 (CEC 2021a). Sources of electricity sold by SCE in 2019, the latest year for which data are available, were:

- 35 percent renewable, consisting mostly of solar and wind
- 8 percent large hydroelectric
- 16 percent natural gas
- 8 percent nuclear
- 33 percent unspecified sources, that is, not traceable to specific sources (SCE 2020)

Operation of the existing facility 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 onsite equipment and appliances. Based on historical electricity consumption data, the existing Brea Plaza consumed an average of 4,689,760 kilowatt-hours annually. Existing electricity consumption for the project area is shown in Table 5.4-1, *Existing Conditions Electricity Consumption*.

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Land Use	Electricity (kWh/year)
High Turnover (Sit Down Restaurant)	1,730,700
Medical Office Building	26,143
Movie Theater (No Matinee)	178,043
Parking Lot	409,816
Regional Shopping Center	919,498
Supermarket	1,425,560
Total	4,689,760

Source: CalEEMod 2016.3.2.25. See Appendix C1. Based on historical electricity rates in CalEEMod.
kWh = kilowatt-hour

Natural Gas

Gas is typically quantified using the “therm,” which is a unit of heat energy equal to 100,000 British thermal units (BTU) and is the energy equivalent of burning 100 cubic feet of natural gas. The Southern California Gas Company (SoCalGas) provides natural gas to the project site. SoCalGas’s service area spans much of the southern half of California, from Imperial County on the southeast to San Luis Obispo County on the northwest to part of Fresno County on the north to Riverside County and most of San Bernardino County on the east (CEC 2021b). Total natural gas supplies available to SoCalGas for years 2020 through 2035 are 3,435 million cubic feet per day. Total natural gas consumption in SoCalGas’s service area is forecast to be 2.566 billion cubic feet per day in 2020 and 2.313 billion cubic feet per day in 2035 (CGEU 2018).

The existing Brea Plaza generates an average natural gas demand of 12,597,098 kilo-BTU per year, as shown in Table 5.4-2, *Natural Gas Consumption*.

Table 5.4-2 Natural Gas Consumption

Land Use	Natural Gas (kBTU/year)
High Turnover (Sit-Down Restaurant)	11,279,000
Medical Office Building	17,285
Movie Theater (No Matinee)	407,745
Regional Shopping Center	144,356
Supermarket	748,712
Total	12,597,098

Source: CalEEMod 2016.3.2.25. See Appendix C1. Based on historical natural gas consumption rates in CalEEMod.
kBTU = kilo-British thermal unit

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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, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

- PPP E-1 New buildings are required to achieve the current California Building Energy Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2019 Building Energy Efficiency Standards became effective on January 1, 2020. The Building Energy Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve zero net energy for residential buildings by 2020 and nonresidential buildings by 2030.
- PPP E-2 New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide bicycle parking for new nonresidential buildings, or meet local bicycle parking ordinances, whichever is stricter (CALGreen Sections 5.106.4.1, 14.106.4.1, and 5.106.4.1.2).
- PPP E-3 California's Green Building Standards Code (CALGreen) requires the recycling and/or salvaging for reuse at minimum of 65 percent of the nonhazardous construction and demolition waste generated during most "new construction" projects (CALGreen §§ 4.408 and 5.408). Construction contractors are required to submit a construction waste management plan that identifies the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project, or salvaged for future use or sale and the amount (by weight or volume).
- PPP E-4 Construction activities are required to adhere to Title 13 California Code of Regulations Section 2499, which requires that nonessential idling of construction equipment is restricted to five minutes or less.
- PPP E-5 New buildings are required to adhere to the California Green Building Standards Code and Water Efficient Landscape Ordinance requirements to increase water efficiency and reduce urban per capita water demand.
- PPP E-6 The California Air Resources Board's Renewable Portfolio Standard (RPS) is a foundational element of the State's emissions reduction plan. These mandates apply directly to investor-

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owned utilities, which in the case of the proposed project is Southern California Edison. On September 10, 2018, Senate Bill 100 was signed into law and established the following RPS targets: 50 percent renewable resources target by December 31, 2026, and 60 percent target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030.

PPP E-7 The 2007 Energy Bill creates new federal requirements for increases in fleetwide fuel economy for passenger vehicles and light trucks under the Federal Corporate Average Fuel Economy Standards. The federal legislation requires a fleetwide average of 35 miles per gallon (mpg) to be achieved by 2020. The National Highway Traffic Safety Administration is directed to phase in requirements to achieve this goal. Analysis by the California Air Resources Board suggests that this will require an annual improvement of approximately 3.4 percent between 2008 and 2020.

PPP E-8 SB 375 requires the reduction of GHG emissions from light trucks and automobiles through land use and transportation efforts that will reduce vehicle miles traveled. In essence, SB 375's goal is to control GHGs by curbing urban sprawl and through better land use planning. SB 375 essentially becomes the land use contribution to the GHG reduction requirements of AB 32, California's global warming bill enacted in 2006, and SB 32.

5.4.4 Environmental Impacts

5.4.4.1 METHODOLOGY

The impact analysis focuses on the three sources of energy that are relevant to the proposed project: electricity/natural gas, transportation fuel for vehicle trips associated with new development, and the fuel necessary for project construction. The analysis of electricity and natural gas usage for the proposed project is based on emissions modeling using California Emissions Estimator Model (CalEEMod), version 2016.3.2.25, which quantifies energy use for occupancy (see Appendix C).

5.4.4.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

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Impact 5.4-1: The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. [Threshold E-1]

Short-Term Construction Impacts

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.

Electrical Energy

Construction of the proposed project would not require electricity to power most construction equipment. Electricity use during construction would vary during different phases of construction. The majority of construction equipment during demolition and grading would be gas- or diesel-powered, and the later construction phases would require electricity-powered equipment for interior construction and architectural coatings. Overall, the use of electricity would be temporary and would fluctuate according to the phase of construction. Additionally, it is anticipated that the majority of electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities. Therefore, project-related construction activities would not result in wasteful or unnecessary electricity demands, and impacts would be less than significant.

Natural Gas Energy

It is not anticipated that construction equipment used for the proposed project would be powered by natural gas, and no natural gas demand is anticipated during construction. Therefore, impacts would be less than significant with respect to natural gas usage.

Transportation Energy

Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and/or gasoline. It is anticipated that the majority of off-road construction equipment, such as those used during demolition and grading, would be gas or diesel powered.

Energy consumption during construction (2022 through 2024) was calculated using the CalEEMod (v. 2016.3.2.25) computer model and data from the EMFAC2017 (v. 1.0.3) and OFFROAD2017 (v. 1.0.1) databases. The results are shown in Table 5.4-3, *Construction-Related Fuel Usage*.

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Table 5.4-3 Construction-Related Fuel Usage

Project Component	Gas		Diesel		Electricity	
	VMt	Gallons	VMt	Gallons	VMt	kWh
Construction Worker Commute	610,771	20,292	4,719	100	11,446	3,725
Construction Vendor Trips	1,695	330	18,018	2,091	0	0
Construction Truck Haul Trips	56	13	63,158	9,282	0	0
Construction Off-Road Equipment	N/A	0	N/A	32,198	N/A	0
Total	612,522	20,635	85,896	43,671	11,446	3,725

Source: CalEEMod v. 2016.3.2.25; EMFAC2017 v. 1.0.3; OFFROAD2017 v. 1.0.1.
Notes: VMt=vehicle miles traveled; kWh=kilowatt hour

The proposed project would not result in wasteful, inefficient, or unnecessary use of energy during construction. The use of energy resources by vehicles and equipment would fluctuate according to the phase of construction and would be temporary. In addition, all construction equipment would cease operating upon completion of project construction. Thus, impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Furthermore, it is anticipated that the construction equipment would be well maintained and meet the appropriate tier ratings per CALGreen or USEPA emissions standards, so that adequate energy efficiency level is achieved. Moreover, to limit wasteful and unnecessary energy consumption, the construction contractors are anticipated to minimize nonessential idling of construction equipment during construction, in accordance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9. Construction trips would also not result in unnecessary use of energy since the project site is centrally located and is served by numerous regional freeway systems (e.g., SR-57 and SR-90) that provide the most direct routes from various areas of the region. Electrical energy would be available for use during construction from existing power lines and connections, precluding the use of less efficient generators. Thus, energy use during construction of the project would not be considered inefficient, wasteful, or unnecessary. Impacts would be less than significant.

Long-Term Impacts During Operation

Operation of the proposed project would therefore generate new demand for electricity, natural gas, and transportation energy. Operational use of energy would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems, use of onsite equipment and appliances; and indoor, outdoor, perimeter, and parking lot lighting.

Electrical Energy

The proposed project would consume electricity for various purposes, including but not limited to heating, cooling, and ventilation of buildings, water heating, operation of electrical systems, lighting, and use of on-site equipment and appliances. 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 5.4.4, *Electricity Consumption*, electricity use at the project site would be 6,631,890 kilowatt hours per year.

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Table 5.4-4 Electricity Consumption

Land Use	Electricity (kWh/year) ¹
Proposed Project Conditions	
Apartments Midrise	909,522
Enclosed Parking with Elevator	990,668
General Office Building	288,079
High Turnover (Sit-Down Restaurant)	1,730,700
Medical Office Building	26,143
Other Asphalt Surfaces	0
Other Nonasphalt Surfaces	0
Parking Lot	341,720
Regional Shopping Center	919,498
Supermarket	1,425,560
Proposed Project Total	6,631,890
Existing Conditions Total	4,689,760
Net Change	1,942,130

Source: CalEEMod Version 2016.3.2.25.

¹ Accounts for total electricity use from proposed buildings. See Appendix C.

While the proposed project would generate new energy demand on-site, it would be required to comply with the current Building Energy Efficiency Standards and CALGreen. Therefore, it would not result in wasteful or unnecessary electricity demands. The proposed project would not result in a significant impact related to electricity.

Natural Gas Energy

The proposed natural gas consumption for the project site is shown in Table 5.4-5, *Natural Gas Consumption*. Development pursuant to the proposed project would result in additional natural gas demands onsite. The proposed and existing facilities would generate an average natural gas demand of 14,931,816 kilo-BTU per year. However, because the proposed project would be built to meet the Building Energy Efficiency Standards, it would not result in wasteful or unnecessary natural gas demands. Therefore, operation of the proposed project would result in less than significant impacts with respect to natural gas usage.

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Table 5.4-5 Natural Gas Consumption

Land Use	Natural Gas (kBTU/year) ¹
Proposed Project Conditions	
Apartments Midrise ¹	2,717,680
Enclosed Parking with Elevator	0
General Office Building	193,263
High Turnover (Sit-Down Restaurant)	11,279,000
Medical Office Building	17,285
Other Asphalt Surfaces	0
Other Nonasphalt Surfaces	0
Parking Lot	0
Regional Shopping Center	144,356
Supermarket	748,712
Proposed Project Total	15,100,296
Existing Conditions Total	12,597,098
Net Change	2,503,198

Source: CalEEMod Version 2016.3.2.25

kBTU = kilo British thermal units

¹ Apartment natural gas use also includes 168,480 KBTU from use of 6 barbecue grills and 3 firepits. See Appendix C for calculations.*Transportation Energy*

The proposed project would consume transportation energy during operations from the use of motor vehicles. The efficiency of these motor vehicles is unknown, such as the average miles per gallon. Estimates of transportation energy use are based on the overall vehicle miles traveled (VMT) and its associated transportation energy use. The project-related VMT would primarily come from residents. As seen in Table 5.4-6, *Project Annual Operation-Related Fuel Usage*, the annual VMT for the proposed project is estimated to be 25,681,475 miles per year, a decrease of 4,985,378 miles from existing conditions. In addition, because the proposed project involves development of new residential housing opportunities, it would provide more opportunities to reside in an urbanized area with nearby amenities and public transit options. As detailed in the project description, the proposed project would include rental cars for use by apartment residents and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea. These features of the proposed project would contribute to 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 with respect to operation-related fuel usage.

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Table 5.4-6 Project Annual Operation-Related Fuel Usage

	Gasoline		Diesel		CNG		Electricity	
	Annual VMT	Annual Gallons	Annual VMT	Annual Gallons	Annual VMT	Annual Gallons	Annual VMT	Annual kWh
Proposed Project	23,598,107	826,580	1,473,487	122,528	42,028	13,206	567,853	183,749
Existing Conditions	28,442,115	1,100,651	1,780,236	164,082	53,308	16,329	391,194	129,672
Net Change	-4,844,008	-274,070	-306,749	-41,554	-11,281	-3,123	176,660	54,077

Source: CalEEMod Version 2016.3.25 EMFAC2017 v. 1.0.3.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.4-2: The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. [Threshold E-2]

The follow discusses consistency of the proposed project with state plans pertaining to renewable energy and energy efficiency.

California Renewables Portfolio Standard

The state's electricity grid is transitioning to renewable energy under California's Renewable Energy Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. Electricity production from renewable sources is generally considered carbon neutral. Executive Order S-14-08, signed in November 2008, expanded the state's RPS to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. Senate Bill 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures. On September 10, 2018, Governor Brown signed SB 100, which supersedes the SB 350 requirements. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 also established a new RPS requirement of 50 percent by 2026. The bill also established 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.

The statewide RPS goal is not directly applicable to individual development projects, but to utilities and energy providers such as SCE, which is the utility that would provide all of electricity needs for the proposed project. Compliance of SCE in meeting the RPS goals would ensure the State meets its objective in transitioning to renewable energy. The proposed project also would comply with the latest 2019 Building Energy Efficiency Standards and CALGreen. Therefore, implementation of the proposed project would not

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conflict or obstruct plans for renewable energy and energy efficiency, and impacts would be less than significant.

City of Brea Sustainability Plan

The Sustainability Plan includes goals and measures that focus on increasing energy efficiency and renewable sources of energy. While most of the policies apply specifically to existing structures, workplace energy efficiency, government operations, or public awareness measures, the proposed project is generally consistent with the overall objective of the Sustainability Plan to increase energy efficiency. Both the retail and residential components of the project would be built to meet the California Building Energy Efficiency Standards and CALGreen and would thereby fulfill Policy SP-Build 1.1 and 1.3 of the Sustainability Plan to promote programs that support efficiency in new construction and promote green building measures. Overall, the proposed project would be consistent and would not interfere with the City of Brea Sustainability Plan and impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant

5.4.5 Cumulative Impacts

The areas considered for cumulative impacts to electricity and natural gas supplies are the service areas of SCE and SoCalGas, respectively, described above in Section 5.4.1.2. Other projects would generate increased electricity and natural gas demands. However, all projects within the SCE and SoCalGas service areas would be required to comply with the Building Energy Efficiency Standards and CALGreen, which would contribute to minimizing wasteful energy consumption and promoting renewable energy sources. Therefore, cumulative impacts would be less than significant, and project impacts would not be cumulatively considerable.

5.4.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, these impacts would be less than significant: 5.4-1 and 5.4-2.

5.4.7 Mitigation Measures

Impacts would be less than significant, and no mitigation measures are necessary.

5.4.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.4.9 References

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5.5 GREENHOUSE GAS EMISSIONS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the proposed project to cumulatively contribute to greenhouse gas (GHG) emissions impacts. Because no single project is large enough to result in a measurable increase in global concentrations of GHG, climate change impacts of a project are considered on a cumulative basis. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (South Coast AQMD). GHG emissions modeling was conducted using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2.25, and model outputs are in Appendix C1 of this DEIR.

Terminology

The following are definitions for terms used throughout this section.

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a greenhouse gas absorbs relative to a molecule of carbon dioxide (CO₂) over a given period of time (20, 100, and 500 years). CO₂ has a GWP of 1.
- **Carbon dioxide equivalent (CO₂e).** The standard unit to measure the amount of greenhouse gases in terms of the amount of CO₂ that would cause the same amount of warming. CO₂e is based on the GWP ratios between the various GHGs relative to CO₂.
- **MTCO₂e.** Metric ton of CO₂e.
- **MMTCO₂e.** Million metric tons of CO₂e.

5.5.1 Environmental Setting

5.5.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The “greenhouse effect” is the natural process that retains heat in the troposphere, which is the bottom layer of the atmosphere. Without the greenhouse effect, thermal energy would escape into space, resulting in a much colder and inhospitable planet. GHGs are the components of the atmosphere responsible for the greenhouse effect. The amount of heat that is retained is proportional to the concentration of GHGs in the atmosphere. As more GHGs are released into the atmosphere, GHG concentrations increase and the atmosphere retains more heat, increasing the effects of climate change.

The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO₂), methane (CH₄), and ozone (O₃)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st

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centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).^{1,2} The major GHGs applicable to the proposed project are briefly described.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 5.5-1. The GWP is used to convert GHGs to CO_2e to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report's (AR4) GWP values for CH_4 , 10 MT of CH_4 would be equivalent to 250 MT of CO_2 .

Table 5.5-1 GHG Emissions and Their Relative Global Warming Potential Compared to CO_2

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2 ¹	Fourth Assessment Report Global Warming Potential Relative to CO_2 ¹
Carbon Dioxide (CO_2)	50 to 200	50 to 200	1	1
Methane ² (CH_4)	12 (± 3)	12	21	25
Nitrous Oxide (N_2O)	120	114	310	298

Source: IPCC 1995, 2007.

Notes: The IPCC published updated GWP values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2 . However, GWP values identified in AR4 are used to maintain consistency in statewide GHG emissions modeling. In addition, the 2014 Scoping Plan Update was based on the GWP values in AR4.

¹ Based on 100-year time horizon of the GWP of the air pollutant compared to CO_2 .

² The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

¹ Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

² Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2017a). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

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California's GHG Sources and Relative Contribution

In 2020, the statewide GHG emissions inventory was updated for 2000-to-2018 emissions using the GWPs in IPCC's AR4.³ Based on these GWPs, California produced 425.3 MMTCO₂e GHG emissions in 2018. The California Air Resources Board (CARB) categorizes GHG generation into seven sectors (CARB 2019b).

- **Transportation.** Consists of direct tailpipe emissions from on-road vehicle and direct emissions from off-road transportation mobile sources, intrastate aviation, rail, and watercraft. Emissions are generated from the combustion of fuels in on- and off-road vehicles in addition to aviation, rail, and ships.
- **Electric.** Includes emissions from instate power generation (including the portion of cogeneration emissions attributed to electricity generation) and emissions from imported electricity.
- **Industrial.** Includes emissions primarily driven by fuel combustion from sources that include refineries, oil and gas extraction, cement plants, and the portion of cogeneration emissions attributed to thermal energy output.
- **Commercial and Residential.** Accounts for emissions generated from combustion of natural gas and other fuels for household and commercial business use, such as space heating, cooking, and hot water or steam generation. Emissions associated with electricity usage are accounted for in the Electric Sector.
- **Recycling and Waste.** Consists of emissions generated at landfills and from commercial-scale composting.
- **Agriculture.** Primarily includes methane (CH₄) and nitrous oxide (N₂O) emissions generated from enteric fermentation and manure management from livestock. Also accounts for emissions associated with crop production (fertilizer use, soil preparation and disturbance, and crop residue burning) and fuel combustion associated with stationary agricultural activities (e.g., water pumping, cooling or heating buildings).
- **High Global Warming Potential Gases.** Associated with substitutes for ozone-depleting substances, emissions from electricity transmission and distribution system, and gases emitted in the semiconductor manufacturing process. Substitutes for ozone-depleting substances are used in refrigeration and air conditioning equipment, solvent cleaning, foam production, fire retardants, and aerosols.

California's transportation sector was the single largest generator of GHG emissions, producing 39.9 percent of the state's total emissions. Industrial sector emissions made up 21.0 percent, and electric power generation made up 14.8 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.7 percent), high GWP (4.8 percent), and recycling and waste (2.1 percent) (CARB 2020a).

³ Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

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Since the peak level in 2004, California statewide GHG emissions dropped below the 2020 GHG limit of 431 MMCO₂e in 2016 and have remained below the 2020 GHG limit since then. In 2018, emissions from routine GHG-emitting activities statewide were 6 MMTCO₂e lower than the 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 MTCO₂e per person to 10.7 MTCO₂e per person in 2018, a 24 percent decrease. Transportation emissions decreased in 2018 compared to the previous year, which is the first year-over-year decrease since 2013. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2018, solar power generation continued its rapid growth since 2013. Emissions from high-GWP gases increased 2.3 percent in 2018 (2000 to 2018 average year-over-year increase is 6.8 percent), continuing the increasing trend as they replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product) is declining, representing a 43 percent decline since the 2001 peak, while the state's gross domestic product has grown 59 percent during this period (CARB 2020a).

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The amount of CO₂ in the atmosphere has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.

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- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signs of climate change. Statewide, average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). The years from 2014 through 2016 showed unprecedented temperatures, with 2014 being the warmest (OEHHA 2018). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emissions levels (CCCC 2012).

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures; 2) a smaller fraction of precipitation falling as snow; 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones; 4) advanced shift in the timing of snowmelt of 5 to 30 days earlier in the spring; and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CAT 2006). Overall, California has become drier over time—five of the eight years of severe to extreme drought were between 2007 and 2016, and 2014 and 2015 were unprecedented dry years (OEHHA 2018). Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years from 2012 to 2015 (OEHHA 2018). According to the California Climate Action Team—a committee of state agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency—even if we could immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.5-1), and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are shown in Table 5.5-2 and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

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Table 5.5-2 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand
Sources: CEC 2006, 2009; CCCC 2012; CNRA 2014.	

5.5.1.2 REGULATORY BACKGROUND

This section describes the federal, state, and local regulations applicable to GHG emissions.

Federal

The US Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 US Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission reduction requirements but allowed the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009).

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To regulate GHGs from passenger vehicles, the EPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and SF₆—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the Specific Plan's GHG emissions inventory because they constitute the majority of GHG emissions; they are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Reporting Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MTCO_{2e} or more per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2021 to 2026)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. However, on March 30, 2020, the EPA finalized updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021-2026. However, consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America, and Volkswagen Group of America. The framework supports continued annual reductions of vehicle GHG emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and gives industry the certainty needed to make investments and create jobs. This commitment means that the auto companies which are party to the voluntary agreement will only sell cars in the United States that meet these standards (CARB 2020b). Additionally, the Biden Administration issued an Executive Order on January 21, 2021 to review and suspend the SAFE rule and for the USEPA to present a proposal for more stringent fuel economy and emissions standards by July 2021.

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act, the EPA has been developing regulations for new, large stationary sources of emissions such as power plants and refineries. Under former President Obama's 2013 Climate Action Plan, the EPA was directed to develop regulations for existing stationary sources as well. On June 19, 2019, the EPA issued the final Affordable Clean Energy rule, which was crafted under the direction of President Trump's Energy Independence Executive Order and became effective on August 19, 2019. It officially rescinded the Clean Power Plan rule issued during the Obama administration and set emissions guidelines for states in developing plans to limit CO₂ emissions from coal-fired power plants.

State

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Orders S-03-05 and B-30-15, Assembly Bill (AB) 32, Senate Bill (SB) 32, and SB 375.

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Executive Order S-03-05

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
- 80 percent below 1990 levels by 2050

Assembly Bill 32, the Global Warming Solutions Act (2006)

State of California guidance and targets for reductions in GHG emissions are generally embodied in the Global Warming Solutions Act, adopted with passage of AB 32. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course to reduce its contribution of GHG emissions. AB 32 follows the 2020 emissions reduction goal established in Executive Order S-03-05.

CARB 2008 Scoping Plan

The first Scoping Plan was adopted by CARB on December 11, 2008. The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be 596 MMTCO₂e in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO₂e (471 million tons) for the state (CARB 2008). To effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MTCTO₂e per year, prepare a plan demonstrating how the 2020 deadline could be met, and develop appropriate regulations and programs to implement the plan by 2012.

First Update to the Scoping Plan

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan, adopted May 22, 2014, highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs; as a result, the 427 MMTCO₂e 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, are slightly higher at 431 MMTCO₂e (CARB 2014).

As identified in the Update to the Scoping Plan, California is on track to meet the goals of AB 32. The update also addresses the state's longer-term GHG goals in a post-2020 element. The post-2020 element provides a high-level view of a long-term strategy for meeting the 2050 GHG goal, including a recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals (CARB 2014). CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014).

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Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions in the state to 40 percent below 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed Senate Bill 32 and Assembly Bill 197, making the Executive Order goal for year 2030 into a statewide, mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan

Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB approved the 2017 Climate Change Scoping Plan Update, which outlines potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO_{2e} for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017b).

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero-emission vehicle technologies; continued investment in renewables such as solar roofs, wind, and other types of distributed generation; greater use of low-carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conserve agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten emissions limits for criteria air pollutants and toxic air contaminants on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero-emission (ZE) buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.

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- California Sustainable Freight Action Plan, which improves freight system efficiency by 25 percent by 2030 and uses near-zero emissions technology and deployment of ZE trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to these statewide strategies, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the state's long-term GHG reduction goals and recommended local actions to reduce GHG emissions—for example, statewide targets of no more than 6 MTCO₂e or less per capita by 2030 and 2 MTCO₂e or less per capita by 2050. CARB recommends that local governments evaluate and adopt quantitative, locally appropriate goals that align with the statewide per capita targets and sustainable development objectives, and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percentage reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the state's 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the Scoping Plan and the state's long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The Scoping Plan scenario is set against what is called the “business as usual” yardstick—that is, what would the GHG emissions look like if the state did nothing at all beyond the policies that are already required and in place to achieve the 2020 limit, as shown in Table 5.5-3. It includes the existing renewables requirements, advanced clean cars, the “10 percent” LCFS, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 60 MMTCO₂e above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

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Modeling Scenario	2030 GHG Emissions MMTCO ₂ e
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	260
Gap to 2030 Target	60
Source: CARB 2017b.	

Table 5.5-4 provides estimated GHG emissions compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

Table 5.5-4 2017 Climate Change Scoping Plan Emissions Change by Sector

Scoping Plan Sector	1990 MMTCO ₂ e	2030 Proposed Plan Ranges MMTCO ₂ e	% Change from 1990
Agricultural	26	24 to 25	-8% to -4%
Residential and Commercial	44	38 to 40	-14% to -9%
Electric Power	108	30 to 53	-72% to -51%
High GWP	3	8 to 11	267% to 367%
Industrial	98	83 to 90	-15% to -8%
Recycling and Waste	7	8 to 9	14% to 29%
Transportation (including TCU)	152	103 to 111	-32% to -27%
Net Sink ¹	-7	TBD	TBD
Subtotal	431	294 to 339	-32% to -21%
Cap-and-Trade Program	NA	34 to 79	NA
Total	431	260	-40%

Source: CARB 2017b.

Notes: TCU = Transportation, Communications, and Utilities; TBD = To Be Determined.

¹ Work underway through 2017 was used to estimate the range of potential sequestration benefits from the natural and working lands sector.

Senate Bill 375

In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan 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 (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPO). The Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG's targets

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are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035 (CARB 2010). The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 is defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 MMTCO₂e of reductions by 2020 and 15 MMTCO₂e of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks compared to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies such as statewide road user pricing. The proposed targets call for greater per capita GHG emission reductions from SB 375 than are currently in place, which for 2035, translates into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted sustainable communities strategies (SCS). As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 MMTCO₂e in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the SCAG region are an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018). CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018, are subject to these new targets.

SCAG's Regional Transportation Plan / Sustainable Communities Strategy

SB 375 requires each MPO to prepare a sustainable communities strategy in its regional transportation plan. For the SCAG region, the draft 2020-2045 RTP/SCS (Connect SoCal) was adopted on May 7, 2020, for the limited purpose of transportation conformity (SCAG 2020). The Connect SoCal Plan was fully adopted in September 2020. In general, the SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land use strategies in development of the SCAG region through horizon year 2045 (SCAG 2020). Connect SoCal forecasts that the SCAG region will meet its GHG per capita reduction targets of 8 percent by 2020 and 19 percent by 2035. Additionally, Connect SoCal also forecasts that implementation of the plan will reduce VMT per capita in year 2045 by 4.1 percent compared to baseline conditions for that year. Connect SoCal includes a "Core Vision" that centers on maintaining and better managing the transportation network

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for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together and increasing investments in transit and complete streets (SCAG 2020).

Transportation Sector Specific Regulations

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles. (See also the discussion on the update to the Corporate Average Fuel Economy standards at the beginning of this Section 5.5.2 under “Federal.”) In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of ZE vehicles into a single package of standards. Under California’s Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in CO₂e gram per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California’s transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and uses market-based mechanisms to allow these providers to choose how they reduce emissions during the “fuel cycle” using the most economically feasible methods.

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directed the number of ZE vehicles in California’s state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

Executive Order N-79-20

On September 23, 2020, Governor Newsom signed Executive Order N-79-20, whose goal is that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for trucks

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are that 100 percent of drayage trucks are ZE by 2035, and 100 percent of medium- and heavy-duty vehicles in the state are ZE by 2045, where feasible. The Executive Order's goal for the State is to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible.

Renewables Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, and X1-2 and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Senate Bill 350 (de Leon) was signed into law 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.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18

Executive Order B-55-18, signed 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." Executive Order 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 should be offset by equivalent net removals of CO_{2e} from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

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Energy Efficiency Regulations

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential 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 [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect starting January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 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 nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings are 30 percent more energy efficient compared to the 2016 standards, and single-family homes are 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.⁴ The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective January 1, 2020.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as “business as usual,” they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

⁴ The green building standards became mandatory in the 2010 edition of the code.

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Solid Waste Diversion Regulations

AB 939: Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October of 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.

Water Efficiency Regulations

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed “SBX7-7.” SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

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AB 1881: Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Reduction Strategy

Senate Bill 1383

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017a). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Local

City of Brea Sustainability Plan

The City of Brea Sustainability Plan: Leadership in Energy Efficiency was adopted in 2012. It presents resource efficiency goals matched with policies and implementation steps to save energy, water, and other resources while aligning the City of Brea for AB 32 compliance. The Sustainability Plan includes 2012 greenhouse gas inventory results, which presents data for a 2010 baseline year. Sustainability goals and policies, as mentioned in the plan, include achieving emission reductions of 34,772 MTCO₂e to reach the 517,231 MTCO₂e 1990 level by 2020 (Brea 2012).

5.5.1.3 EXISTING CONDITIONS

Operation of the Brea Plaza generates GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips for employees, vendors, and visitors; area sources such as landscaping equipment and consumer cleaning products; water demand; waste generation; and solid waste generation. Table 5.5-5, *Existing GHG Emissions Inventory*, shows the existing emissions currently associated with existing land uses on the project site, modeled using CalEEMod 2016.3.2.25.

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Table 5.5-5 Existing GHG Emissions Inventory

Sector	GHG Emissions MTCO ₂ e/Year	Percent of Total
Area	<1	<1%
Energy ¹	1,812	13%
On-Road Transportation ²	11,179	82%
Solid Waste Disposal	448	3%
Water/Wastewater ³	117	1%
Total	13,556	100%

Source: CalEEMod 2016.3.2.25.

Notes: Totals may not add to 100 percent due to rounding.

¹ Existing nonresidential building energy use modeled using historical energy demand rates in CalEEMod.

² Transportation emissions are based on trip generation data provided by LLG. Assumed VMT and vehicle fleet mix based on CalEEMod default rates for year 2021.

³ Water use is based on the water demand rates from the California Department of Water Resources' Water Budget Workbook for New and Rehabilitated Non-Residential Landscapes.

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:

- 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.

5.5.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

South Coast AQMD has adopted a significance threshold of 10,000 MTCO₂e per year for permitted (stationary) sources of GHG emissions for which South Coast AQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, South Coast AQMD convened a GHG CEQA Significance Threshold Working Group. Based on the last Working Group meeting (Meeting No. 15) in September 2010, South Coast AQMD identified a tiered approach for evaluating GHG emissions for development projects where South Coast AQMD is not the lead agency (South Coast AQMD 2010a). This following tiered approach has not been formally adopted by South Coast AQMD.

- **Tier 1.** If a project is exempt from CEQA, project-level and contribution to significant cumulative GHG emissions are less than significant.
- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (e.g., city or county), project-level emissions and contribution to significant cumulative GHG emissions are less than significant.

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- **Tier 3.** If GHG emissions are less than the screening-level criterion, project-level emissions and contribution to significant cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, South Coast AQMD requires an assessment of GHG emissions. Project-related GHG emissions include on-road transportation, energy use, water use, wastewater generation, solid waste disposal, area sources, off-road emissions, and construction activities. The South Coast AQMD Working Group determined that because construction activities would result in a “one-time” net increase in GHG emissions, construction activities should be amortized into the operational phase GHG emissions inventory based on the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation. South Coast AQMD identified a screening-level threshold of 3,000 MTCO₂e annually for all land use types. The bright-line screening-level criteria are based on a review of the Governor’s Office of Planning and Research database of CEQA projects. Based on review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions. South Coast AQMD recommends use of the 3,000 MTCO₂e interim bright-line screening-level criterion for all project types (South Coast AQMD 2010b).

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project’s GHG emissions is warranted.

The South Coast AQMD Working Group has identified an efficiency target for projects that exceed the screening threshold of 4.8 MTCO₂e per year per service population (MTCO₂e/year/SP) for project-level analyses and 6.6 MTCO₂e/year/SP for plan level projects (e.g., program-level projects such as general plans) for the year 2020.⁵ The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB’s 2008 Scoping Plan.⁶ These efficiency-based threshold are not used as the Working Group only considered the AB 32 time horizon.

Summary

For purposes of this analysis, because the City has not developed its own numeric GHG significance threshold, the South Coast AQMD Working Group’s bright-line screening-level criterion of 3,000 MTCO₂e per year is used as the significance threshold for this project. If the project operation-phase emissions exceed this, GHG emissions would be considered potentially significant without mitigation measures.

5.5.2.2 MASS EMISSIONS AND HEALTH EFFECTS

On December 24, 2018, in *Sierra Club et al. v. County of Fresno et al.* (Friant Ranch), the California Supreme Court determined that the EIR for the proposed Friant Ranch project failed to adequately analyze the

⁵ Service population is generally defined as the sum of residential and employment population of a project. It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this Working Group meeting.

⁶ South Coast AQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

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project's air quality impacts on human health. The EIR prepared for a master planned retirement community in Fresno County showed that project-related mass emissions would exceed the San Joaquin Valley Air Pollution Control District's regional significance thresholds. In its findings, the California Supreme Court affirmed the holding of the Court of Appeal that EIRs for projects must not only identify impacts to human health, but also provide an "analysis of the correlation between the project's emissions and human health impacts" related to each criteria air pollutant that exceeds the regional significance thresholds or explain why it could not make such a connection. In general, the ruling focuses on the correlation between emissions of toxic air contaminants and criteria air pollutants and their impact to human health.

In 2009, the EPA issued an endangerment finding for six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) in order to regulate GHG emissions from passenger vehicles. The endangerment finding is based on evidence that shows an increase in mortality and morbidity associated with increases in average temperatures, which also increase the likelihood of heat waves and elevated ozone levels. The effects of climate change are identified in Table 5.5-2. Though effects such as sea level rise and extreme weather can indirectly impact human health, neither the EPA nor CARB has established ambient air quality standards for GHG emissions. The state's GHG reduction strategy outlines a path to avoid the most catastrophic effects of climate change. The state's GHG reduction goals and strategies are based on the state's path toward reducing statewide cumulative GHGs as outlined in AB 32, SB 32, and Executive Order S-03-05. Further, because no single project is large enough to result in a measurable increase in global concentration of GHG emissions, climate change impacts of a project are considered on a cumulative basis.

5.5.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP) are identified below, including applicable regulatory requirements and conditions of approval for GHG emissions.

- PPP GHG-1 New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2019 Building and Energy Efficiency Standards were effective on 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 nonresidential buildings by 2030.
- PPP GHG-2 New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide bicycle parking for new nonresidential buildings, or meet local bicycle parking ordinances, whichever is stricter (CALGreen §§ 5.106.4.1, 14.106.4.1, and 5.106.4.1.2). Development of the project would require provision of anchored bicycle racks and long-term secured bicycle parking.
- PPP GHG-3 California's Green Building Standards Code (CALGreen) requires the recycling and/or salvaging for reuse at minimum of 65 percent of the nonhazardous construction and demolition waste generated during most "new construction" projects (CALGreen §§ 4.408 and 5.408). Construction contractors are required to submit a construction waste

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management plan that identifies the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project, or salvaged for future use or sale and the amount (by weight or volume).

PPP GHG-4 Construction activities are required to adhere to California Code of Regulations, Title 13, Section 2449, which requires that nonessential idling of construction equipment be restricted to five minutes or less.

PPP GHG-5 New buildings are required to adhere to the California Green Building Standards Code and Water Efficient Landscape Ordinance requirements to increase water efficiency and reduce urban per capita water demand.

5.5.4 Environmental Impacts

5.5.4.1 METHODOLOGY

This GHG emissions evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG emissions impacts are likely in conjunction with the type and scale of development associated with the proposed project. Air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2.25. CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, on-road emissions, and off-road emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use. The following provides a summary of the assumptions utilized for the proposed project analysis. GHG emissions modeling datasheets are in Appendix C1.

Construction Phase

Construction would entail demolition of existing asphalt, site preparation, grading, off-site hauling of demolition debris and earthwork material, construction of the proposed structures and buildings, architectural coating, and asphalt paving on up to 2.20 acres of the 16-acre Brea Plaza site. The proposed project is anticipated to be constructed over an approximately 25-month period from June 2022 to June 2024. Construction air pollutant emissions are based on the preliminary information provided by the developer and identified in Table 3-5, *Construction Phasing*.

Operational Phase

- **Transportation.** The average daily trip generation for weekday, Saturday, and Sunday trips was provided by LLG (see Appendix J2). Project-related on-road criteria air pollutant emissions are based on year 2020 emission rates for existing conditions and 2024 emission rates for the project buildout year. The primary source of mobile criteria air pollutant emissions is tailpipe exhaust emissions from the combustion of fuel (i.e., gasoline and diesel). Additionally, for criteria air pollutants, brake and tire wear and fugitive dust created from vehicles traveling roadways also generate particulate matter.

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- **Area Sources.** Area source emissions from use of consumer cleaning products, landscaping equipment, and emissions of volatile organic compounds from paints are based on CalEEMod default values and the square footage of the proposed buildings and surface parking lot areas. Area source emissions also assume operation of six barbecue grills and three firepits with a CalEEMod default energy output capacity of 60,000 BTU per hour to be in use for three hours per day over 104 days per year (weekends).
- **Energy.** Emissions of GHG from energy use (electricity and natural gas) are based on the CalEEMod defaults for electricity and natural gas usage. New buildings are modeled to comply with the 2019 Building Energy Efficiency Standards. Based on a study of the statewide impacts of the 2019 changes to the California Energy Efficiency Standards, the reductions for newly constructed multifamily residential buildings are estimated to be 2 percent for electricity and 5 percent for natural gas. Newly constructed nonresidential buildings are estimated to have an 11 percent reduction for electricity and 1 percent for natural gas (NORESO 2018).
- **Solid Waste Disposal.** Indirect emissions from waste generation are based on the CalEEMod defaults for all existing uses and proposed residential and office uses.
- **Water/Wastewater.** Emissions of GHG are associated with the embodied energy used to supply, treat, and distribute water. Indoor water use is based on information provided in Section 5.13, *Utilities and Service Systems*. Outdoor water use is based on DWR's Water Budget Workbook for New and Rehabilitated Non-Residential Landscapes (beta version 1.09).

Life cycle emissions are not included in the GHG analysis consistent with California Resources Agency directives.⁷ Black carbon emissions are not included in the GHG analysis because CARB does not include this short-lived climate pollutant in the state's AB 32/SB 32 inventory but treats it separately.⁸

5.5.4.2 IMPACT ANALYSIS

Impact 5.5-1: Implementation of the proposed project would not generate a net increase in GHG emissions, either directly or indirectly, that would have a significant impact on the environment. [Threshold GHG-1]

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does

⁷ Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analysis was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials is also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

⁸ Particulate matter emissions, which include black carbon, are analyzed under *Air Quality*. Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (CARB 2017a).

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not generate enough greenhouse gas emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact.

Implementation of the proposed project would result in residential and office uses on the project site. The proposed project would reduce existing vehicle trips by 1,680 weekday trips and 2,282 Saturday trips because of demolition of the 1,100 seat movie theater. Operation of the proposed project would increase water demand, wastewater and solid waste generation, area sources (e.g., consumer cleaning products), and energy usage (i.e., natural gas and electricity). Annual average construction emissions were amortized over 30 years and included in the emissions inventory to account for one-time GHG emissions from the construction phase of the project. The project emissions and construction-related emissions are quantified and shown in Table 5.5-6, *Project-Related GHG Emissions*. As shown in the table, the proposed project would result in a reduction in GHG emissions compared to existing conditions—a project benefit. Overall, the proposed project GHG emissions would not exceed South Coast AQMD's bright-line significance threshold, and as a result of the net reduction in GHG emissions on-site, no impact would occur.

Table 5.5-6 Project-Related GHG Emissions

Source	Existing Brea Plaza MTCO ₂ e	Proposed Brea Plaza MTCO ₂ e	Percentage of Proposed Brea Plaza Total Emission	Net Change (Proposed Project) MTCO ₂ e
Area	<1	13	<1%	13
Energy ¹	1,812	2,408	21%	596
Mobile ²	11,179	8,504	73%	-2,675
Solid Waste	397	460	4%	63
Water	118	179	2%	62
30-Year Amortized Construction ³	NA	17	<1%	17
Total Emissions	13,505	11,580	100%	-1,925
South Coast AQMD Bright Line Threshold	NA	NA	NA	3,000 MTCO ₂ e
Exceeds South Coast AQMD Bright Line Threshold	NA	NA	NA	No

Sources: CalEEMod Version 2016.3.2.

Note: NA: not applicable

¹ Existing conditions for energy uses historic rates based on CalEEMod Defaults. For project buildout conditions, the default electricity and natural gas rate in CalEEMod was adjusted to reflect 'blended' energy efficiency associated with the existing Brea Plaza that would remain (using historic rates in CalEEMod) and new structures that would be constructed to achieve the 2019 Building and Energy Efficiency Standards (see Appendix C1).

² Transportation emissions are based on trip generation data provided by LLG (see Appendix J2). VMT and vehicle fleet mix based on CalEEMod default rates.

³ Construction emissions/sequestration are amortized over a 30-year period.

Level of Significance Before Mitigation: No Impact.

Impact 5.5-2: 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]

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and SCAG's RTP/SCS. A consistency analysis with these plans is presented below.

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CARB Scoping Plan

On December 24, 2017, CARB adopted the Final 2017 Climate Change Scoping Plan Update (Scoping Plan) to address the 2030 interim target to achieve a 40 percent reduction below 1990 levels by 2030, established by SB 32 (CARB 2017b). The CARB Scoping Plan is applicable to state agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts.

Since the 2008 Scoping Plan was adopted to achieve the GHG reduction goals of AB 32, state agencies have adopted programs identified in the plan, and the legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Renewable Energy Portfolio standard, changes in the Corporate Average Fuel Economy standards, and other early action measures to ensure the state is on target to achieve the GHG emissions reduction goals of AB 32 and SB 32. Also, new buildings are required to comply with the latest applicable Building Energy Efficiency Standards and CALGreen. Though measures in the Scoping Plan apply to state agencies and not the proposed project, the project's GHG emissions would be reduced by statewide compliance with measures that have been adopted since AB 32 and SB 32 were adopted. Therefore, the proposed project would not obstruct implementation of the CARB Scoping Plan, and impacts would be less than significant.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy

SCAG adopted the 2020-2045 RTP/SCS (Connect SoCal) in September 2020. Connect SoCal identifies that land use strategies that focus on new housing and job growth in areas rich with destinations and mobility options are consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in Connect SoCal is to plan for the southern California region to grow in more compact communities in transit priority areas and priority growth areas; provide neighborhoods with efficient and plentiful public transit; establish abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands and farmlands (SCAG 2020). Connect SoCal's transportation projects help more efficiently distribute population, housing, and employment growth, and forecast development is generally consistent with regional-level general plan data to promote active transportation and reduce GHG emissions. The projected regional development, when integrated with the proposed regional transportation network in Connect SoCal, would reduce per capita GHG emissions related to vehicular travel and achieve the GHG reduction per capita targets for the SCAG region.

The RTP/SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency to governments and developers. The proposed project would result in high density residential development near Brea Downtown and major employers. This would contribute to reducing the VMT between residential and service needs. In addition, as detailed in the project description, the proposed project would include rental cars for use by apartment residents and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation

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System for use by all people working, visiting, and living in Brea. Implementation of the proposed project would also result in an overall reduction in vehicle trips compared to existing conditions. Consequently, the project is consistent with the overall objectives of SCAG's RTP/SCS. The proposed project would not interfere with SCAG's ability to implement the regional strategies outlined in the RTP/SCS.

City of Brea Sustainability Plan

To meet the defined goals and policies, the Sustainability Plan provides phased measures that include an implementation time frame and estimated CO₂ mitigation for the city. The Sustainability Plan consists of measures to reduce GHG emissions in the City. While most of the policies apply specifically to existing structures, workplace energy efficiency, government operations, or public awareness measures, the proposed project is generally consistent with the overall objective of the Sustainability Plan. Both the commercial and residential components of the project would be built to meet the California Building Energy Efficiency Standards and CALGreen and would thereby fulfil Policy SP-Build 1.1 and 1.3 of the Sustainability Plan to promote programs that support efficiency in new construction and promote green building measures. Overall, the proposed project would be consistent and would not interfere with the City of Brea Sustainability Plan.

Level of Significance before Mitigation: Less Than Significant.

5.5.5 Cumulative Impacts

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, impacts under Impact 5.5-1 are project-specific impacts that contribute to global warming, but the proposed project's contribution to this cumulative impact. As discussed under Impact 5.5-1, implementation of the proposed project would not result in an increase in GHG emissions on-site. Therefore, project-related GHG emissions and their contribution to global climate change would not be cumulatively considerable.

5.5.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, impacts would be less than significant: 5.5-1 and 5.5-2.

5.5.7 Mitigation Measures

No mitigation measures are required.

5.5.8 Level of Significance After Mitigation

Impacts would be less than significant.

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5.6 LAND USE AND PLANNING

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts to land use in Brea from implementation of the proposed Brea Plaza Expansion project. Land use impacts can be direct or indirect. Direct impacts result in land use incompatibilities; division of neighborhoods or communities; or interference with other land use 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 DEIR.

5.6.1 Environmental Setting

5.6.1.1 REGULATORY BACKGROUND

Regional

Southern California Association of Governments

SCAG is a council of governments representing Imperial, Los Angeles, Orange, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization (MPO) 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. As the southern California region's MPO, SCAG cooperates with the South Coast Air Quality Management District, the California Department of Transportation, and other agencies in preparing regional planning documents. SCAG has developed regional plans to achieve specific regional objectives. The plans most applicable to the proposed project are discussed below.

Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, SCAG adopted the 2020-2045 RTP/SCS, Connect SoCal, which encompasses four principles—mobility, economy, healthy/complete communities, and environment—that are important to the region's future. Connect SoCal explicitly lays out goals related to housing, transportation technologies, equity, and resilience in order to adequately reflect the increasing importance of these topics in the region.

Local

City of Brea General Plan

The land use section of the General Plan community development element defines the distribution of land uses and the intensity of development. The land use section provides goals and policies that are used to guide implementation of land use objectives that provide for the present and future population:

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- **Policy CD-1.2.** Maintain a land use structure that balances the provision of jobs and housing with available infrastructure and public and human services.
- **Policy CD-1.4.** Ensure that the City maintains a balance among residential, commercial, and industrial land uses.
- **Policy CD-1.5.** Provide opportunities for development of housing that responds to diverse community needs in terms of density, size, location, design, and cost.
- **Policy CD-1.7.** Create and maintain linked open spaces and pedestrian access that serve the entire community.
- **Policy CD-1.9.** 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.
- **Policy CD-1.11.** Maintain a mixture of business and retail uses within the community.
- **Policy CD-4.2.** Improve transportation, pedestrian, and visual connections between Brea Downtown and the rest of the community.
- **Policy CD-4.5.** Create large interactive and inviting public spaces.
- **Policy CD-5.1.** Ensure new development is compatible with the style, theme, and design of established structures and neighborhoods.

Moreover, the 2014-2021 housing element identifies strategies and programs that focus on the provision of housing, reduction of governmental constraints to housing production, and the support of existing and new housing that minimizes reliance on natural resources and automobile use.

- **Policy HE-3.1. Variety of Housing Choices.** Provide site opportunities for development of housing that responds to diverse community needs in terms of housing type, cost and location, emphasizing locations near services and transit that promote walkability.
- **Policy HE-3.3. Residential Mixed Use.** Promote the efficient use of land by encouraging commercial and residential uses on the same property in both horizontal and vertical mixed-use configurations.
- **Policy HE-3.4. Reuse Sites.** Explore reuse opportunities on obsolete or underutilized commercial and industrial sites.
- **Policy HE-4.2. Flexible Development Guidelines.** Provide flexibility in development/design guidelines to accommodate new models and approaches to providing housing, such as transit-oriented development, mixed-use, and live/work housing.

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- **Policy HE-6.1. Smart Growth.** Preserve open space and environmental habitats, while accommodating new growth in compact forms in a manner that de-emphasizes the automobile. Evaluate expanded locations for mixed use development, focusing on sites along OCTA's future bus rapid transit (BRT) corridors.
- **Policy HE-6.4. Healthy Community.** Promote healthy living and physical activity through decisions in the location, site planning, and design of housing and mixed-use development.
- **Policy HE-6.5. Transportation Alternatives and Walkability.** Incorporate transit and other transportation alternatives including walking and bicycling into the design of new development, particularly in areas within a half-mile of designated transit stops and the City's "Tracks at Brea" walking and biking trail system.
- **Policy HE-6.6. Jobs/Housing Balance.** Encourage a closer link between housing and jobs in the community, including housing opportunities affordable to Brea's modest income workforce.

City of Brea Municipal Code

The Brea Zoning Code is designed to encourage the most appropriate use of land and to facilitate adequate provision for community facilities and utilities. Section 20.04.010 of the municipal code establishes zones for allowable uses. Chapter 20.236, C-G General Commercial Zone, indicates that the intent of the C-G Zone is to provide for the development of general commercial and highway related uses. The project would change the site's zoning designation to MU-I (Mixed-Use I), which is detailed in Section 20.258 of the municipal code.

The intent of the PD Overlay, according to Chapter 20.260, PD Precise Development Zone, is to be applied as an additional zone classification to land zoned under any other zone classification of Title 20; areas zoned P-D shall be subject to compliance with an approved precise plan development, including any conditions established by the Planning Commission.

Brea Envisions

In 2016, the City started Brea Envisions, a community visioning and strategic planning process. The goals of Brea Envisions were to better understand what residents value about the city and to use the information gathered through the process to develop a strategic plan that will help guide future planning, policy, capital improvement, and service-related decisions in a manner that is consistent with residents' shared vision for the city. The initiatives of Brea Envisions indicate that residents are focused on maintaining rather than changing the character of Brea, and preserving or enhancing existing qualities of the city. The proposed project is intended to fulfill the following Brea Envisions values and initiatives.

- **Land Use and Housing: Value – Balanced and Responsible Growth**
 - **Initiative 1:** Future growth is needed, but must be done in a way that keeps Brea's small town feel and community character.
 - **Initiative 4:** Maintain a consistent and acceptable balance of both residential and commercial/industrial development.

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5.6.1.2 EXISTING CONDITIONS

As shown in Figure 3-3, *Aerial Photograph*, the project site is developed with the Brea Plaza Shopping Center. The shopping center has 165,329 square feet of commercial uses. The shopping center consists of a mix of tenants, including Mothers Market (north side), Buca di Beppo (west side), Lucille's Smokehouse Bar-B-Que (south side), Chick-fil-A (south side), Friar Tux (northeast side), Total Wine and More (west side), Custom Comfort Mattress (northwest side), Grand Salon (west side), and Brea Plaza 5 Cinemas (northwest side).

The project site is directly surrounded by commercial and residential uses to the west of SR-57. The northern portion of the project site is bounded by Mercury Insurance corporate campus, which includes Mercury Insurance's office building, parking structure, and parking lot. North of the Mercury Insurance campus and Greenbriar Lane are single-family residential uses and Greenbriar Park. To the east of the project site, across South Associated Road, is a single-family residential neighborhood, and Brea Mall and other commercial uses are to the west of the project site. Directly south of Imperial Highway are commercial and retail uses (Circle K gas station and car wash, Arco gas station, 7-Eleven, Wendy's, Patio Furniture Plus, Dolce Hair and Nails), and the North Fullerton Kindercare daycare facility is farther to the south. Residential uses are also southeast of the intersection of Associated Road and Imperial Highway and the Southern California Edison electrical substation. Craig Regional Park is southwest of the project site.

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:

- 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.

5.6.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP) are identified below, including applicable regulatory requirements and conditions of approval for land use impacts.

- PPP LU-1 As part of the project review process, the City of Brea is requiring that the project applicant prepare a parking study with travel demand management strategies.

5.6.4 Environmental Impacts

Impact 5.6-1: Project implementation would not divide an established community. [Threshold LU-1]

The project site, which is developed with the Brea Plaza Shopping Center, is in a highly developed area east of Brea Downtown and Brea Mall, and is surrounded by commercial and residential uses (see Figure 3-3, *Aerial Photograph*). The proposed project would result in the demolition of the existing 1,100-seat theater, and the

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subsequent development of a five-story structure with 189 residential units; 21,355 square feet of co-working office space; and a 182,108-square-foot parking garage on 2.2 acres in the northwestern portion of the 16-acre Brea Plaza Shopping Center site. The introduction of a mix of uses, including residential uses, on the project site, which is surrounded by residential and commercial uses, would not divide an established community. Therefore, the proposed project would improve the project site, and because project implementation would occur within the project site's boundaries, the proposed project would not divide an established community.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.6-2: Project implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. [Threshold LU-2]

City of Brea General Plan

The General Plan land use designation for the site is General Commercial with a floor area ratio (FAR) of 0.5. The General Commercial designation creates areas where a broad range of retail, office, and service-oriented business activities can locate. The proposed project would require a general plan amendment to a Mixed Use II designation, which allows the coordinated development of urban villages with a diverse range of complementary land uses in close proximity to one another. The proposed project would be consistent with the Brea General Plan policies pertaining to mixed-use projects. For example, Policies CD-1.2 and HE-6.6 call for a balance between the provision of jobs and housing as well as a closer link between housing and jobs, and the proposed project would include office and residential uses in an area surrounded by commercial and residential uses. The proposed project would also be consistent with Policy HE-3.3, which calls for the efficient use of land by encouraging commercial and residential uses on the same property.

Policies CD-1.7, CD-4.5, and HE-6.4 call for large interactive open and public spaces and pedestrian access that serve the entire community and promote healthy living and physical activity. The proposed project would include a rooftop garden and amenity deck for the residential component and terraces for the office component. The proposed project would develop a mix of uses on-site and would have rental bicycles available for use, and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea which would be consistent with Policies CD-1.9 and CD-4.2, which encourage new development to be walkable and mixed use and to reduce the reliance on automobiles.

Policies HE-3.1, HE-4.2, HE-6.1, and HE-6.5 call for housing near services and transit, development/design guideline flexibility to accommodate mixed-use development, preservation of open space, de-emphasis of automobiles, and transportation alternatives in areas within a half mile of designated transit stops. The Brea Mall transit center and several bus stops are in the project vicinity, and employment and housing would be within a half mile of transit. The mix of uses on the project site would de-emphasize the use of automobiles, and developing the proposed project on an existing site, as opposed to a vacant site, would preserve open space. Moreover, the proposed project would include rental cars for the use by apartment residents, and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea. Therefore, the proposed project would be consistent with the policies of the General Plan, and impacts would be less than significant.

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City of Brea Zoning

The Brea Plaza Shopping Center is zoned General Commercial (C-G) with a P-D Precise Development overlay. The proposed project would require a zone change to Mixed Use I (MU-I). In accordance with the CEQA Guidelines, this analysis focuses on whether there would be any adverse physical environmental impact that might result from conflict with the existing zoning.

The general plan amendment is required to redesignate the project site from General Commercial to Mixed Use I (MU-I). The residential density range for development in the MU-I zone is 12 to 50 units per acre and the maximum FAR is 3.00. The project site is approximately 2.2 acres; therefore, the project density on the site would be 85.9 units per acre.¹ However, the general plan amendment and zone change would apply to the entire 16-acre shopping center, not just the 2.2-acre project site. The MU-I zone allows density (dwelling units per acre) to be applied across the project site rather than to the individual parcels. Therefore, although the residential density on the 2.2-acre site exceeds 50 units an acre, when averaged across the entire 16-acre site, the residential averages 12 units per acre.² The 16-acre project site would have 222,447 square feet of residential uses, 168,234 square feet of commercial and office uses, and a 182,108-square-foot parking structure, which totals 572,789 square feet. As a result, the project would have an FAR of less than 1.0.³

The MU-I zone would limit vehicle trips by emphasizing vertical or horizontal integration of uses with pedestrian linkages. The purpose of the MU-I zone is to provide areas for intense, mixed-use urban environments that offer opportunities for people to live, work, shop, and recreate without having to use their vehicles. This designation encourages vertical and horizontal integration of compatible residential and nonresidential uses, whereby the uses share the same structure or parcel. The Mixed-Use I designation applies to Downtown Brea, including the Birch Street Corridor, as well as other sites located throughout the community with ready access to major roadways and public transit. The Mixed Use I Zone allows structures with a maximum height of 1000 feet. The building would be approximately 89 feet, measured from the ground (level 1 of the parking structure) to the parapet.^{4, 5}

Development in the MU-I zone is required to provide a minimum of 100 square feet of common residential open space per dwelling unit and a minimum of 75 square feet of private open space per dwelling unit. Additionally, all improved building sites are required to have a minimum landscaped coverage of 15 percent of the net site area. The proposed project would include a 19,961-square-foot amenity deck on the fourth level of the residential component and would include various features such as a fire pit lounge, covered co-working pods, raised swimming pool deck, barbeque area, paseo, landscaping, and decking; and the office component would include 2,115 square feet of terrace space.

¹ 189 / 2.2 acres = 85.91.

² 189 units / 16 acres = 11.8125 units per acre.

³ The project FAR is 0.82 over the 16-acre site ([222,447 square feet of residential uses, 168,234 square feet of commercial uses, plus 182,108 square feet] / 16 acres)

⁴ With the elevator shaft, at its highest point, the building would be approximately 95 feet tall. However, elevator shafts and incidental appurtenances are exempt from building height pursuant to the Brea Municipal Code Section 20.00.070.

⁵ The proposed building, would not be substantially taller than those around it in a manner that would block satellite reception. The nearest residential neighborhoods are over 500 feet to the north and east of the proposed building.

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Parking Requirements

CEQA does not require an evaluation of parking impacts because the inconvenience resulting from a parking shortage is a social impact, not an environmental impact. This section provides a discussion of parking for the 16-acre Brea Plaza project site based on a consistency analysis with the City's Zoning requirements.

The project applicant is required to provide parking in accordance with the City's zoning code and is evaluated for local thresholds. There are 739 surface parking spaces at the Brea Plaza Shopping Center, and the applicant has an easement with Mercury Insurance for approximately 180 spaces during business hours and all surface spaces (approximately 500 spaces) after 5:00 pm and on weekends; the MOU will expire in April 2026. The proposed parking structure, which would accommodate the residential, and commercial uses, would include 397 spaces in a three-story structure below the residential component.

Municipal Code Title 20, Division I, Section 20.08.040(D), Parking Space Requirements, details the required number of spaces for offices and shopping centers per square foot, and residential uses per unit and type. Table 5.6-1, *Brea Plaza Required Parking per Municipal Code*, identifies the parking required for the proposed project based on the city's Municipal Code requirements.

Table 5.6-1 Brea Plaza Required Parking per Municipal Code

Residential Unit Type	Number of Units	Residential Parking Required Under the City of Brea Municipal Code (spaces)	
		Spaces/Unit	Standard Required
Studio Units	16	1.5	24
One-Bedroom Units	109	1.75	191
Two-Bedroom Units	44	2.0	88
Three-Bedroom Units	5	2.5	12.5
Three-Bedroom Units (Co-living)	5	2.5	12.5
Four-Bedroom Units (Co-living)	10	3.0	30
Total Residential Required	189	–	358
Guest Parking		0.2	37.8
Total Residential Parking Required		–	396 (395.8)
Office	Square Footage	Office Parking Required Under the City of Brea Municipal Code (spaces)	
		Spaces/Square Feet (SF)	Standard Required
Office	21,355	1 space per 250 SF	85
Shopping Center (existing)	146,879	5.5 spaces per 1,000 SF	808
Total Nonresidential Parking Required		–	893
Total Parking Required		–	1,289

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Table 5.6-2, *Brea Plaza Parking Study Residential Parking Demand*, shows the residential parking demand based on the available empirical data and the function of the units (co-living, affordable, market-rate) estimated in the Parking Study (see Appendix K). Table 5.6-2 identifies a potential reduction in demand of 68 parking spaces⁶ from the Municipal Code standards.

Table 5.6-2 Brea Plaza Parking Study Residential Parking Demand

Residential Unit Type	Number of Units	Parking Spaces Provided	
		Spaces/Unit	Standard Required
Market Rate Studio Unit	14	1.40	19.6
Affordable Studio Units	2	1.09	2.2
Market Rate One-Bedroom Units	98	1.40	137.2
Affordable One-Bedroom Unit	11	1.09	12.0
Market Rate Two-Bedroom Units	1.9	1.9	74.1
Affordable Two-Bedroom Units	2.0	2.0	10.0
Market Rate Three-Bedroom Units	2.8	2.8	11.2
Affordable Three-Bedroom Unit	2.0	2.0	2.0
Three-Bedroom Units (Co-living) ¹	55	1.09 per bedroom	60.0
Total Demand	229²	–	328 (328.3)
Guest Parking Demand		-0.1	-23
Total Residential Parking Demand ³		–	305

Source: LSA 2021 (see DEIR Appendix K)

Notes:

¹ Based on five 3-bedroom units and ten 4-bedroom units.

² In addition to vehicle parking spaces, the proposed project would provide 108 long-term and 22 short-term bicycle parking spaces.

³ Residential demand includes guest parking. Guest parking demand is calculated separately and subtracted out to obtain the total demand for the residential uses.

The proposed project would provide a total of 997 parking spaces,⁷ as well as 108 long-term and 22 short-term bicycle parking spaces for the entire site (see Table 3-4). The parking, as proposed, would be analyzed and studied by the City. Parking for the proposed project would be required to meet the conditions of municipal code Section 20.08.040, Off-Street Parking and Loading. If the requirements are considered excessive, Section 20.08.040(F), Exception or Modifications to Off-Street Parking Requirements, states that exceptions or modifications to the provisions can be made in accordance with the following procedures:

- Any property owner, his or her authorized agent, or the City may apply for exceptions to or modifications of the off-street parking regulations.

⁶ 396 parking spaces (Municipal Code) – 328 spaces (Parking Study Appendix K) = 68 spaces.

⁷ New: 397 spaces, including 10 tandem stalls (20 spaces); existing: 739 spaces.

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- Exceptions to or modifications of the off-street parking requirements as they relate to shared parking and/or the location of off-street parking may be permitted subject to the approval of a conditional use permit application.

Table 3-4, *Brea Plaza Surface and Structure Parking*, identifies the total number of parking spaces (surface and structured parking) at buildout of the proposed project. This table does not include the shared parking with Mercury Insurance since the MOU will expire in April 2026. As identified in Table 3-7, the Brea Plaza Shopping Center would provide a total of 997 parking spaces onsite. Compared to the number of parking spaces required under the Municipal Code (1,289 spaces), the proposed project would result in a deficiency of 292 parking spaces.⁸ However, parking demand strategies proposed for the project, such as providing a lounge for rideshare drivers, subsidizing car sharing for the residents, providing the majority of residential parking in unreserved parking spaces, providing short-term and long-term bicycle parking, would reduce VMT and moderate parking demand (LSA 2021).

Pursuant to City regulations, the City would review the parking study and may impose additional conditions to ensure that the parking demand of the proposed project is satisfied. Review by the City would ensure that the project would provide adequate parking and ensure consistency with the City's policies on parking.

Level of Service Policies

The Circulation Element of the City of Brea General Plan provides goals and policies for the local circulation system (Brea 2003). As a result of legislative changes to the CEQA Guidelines pursuant to Senate Bill 743, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment. A traffic circulation assessment is provided in Appendix J2 of this DEIR to satisfy the City's general plan requirements to address local transportation policies for level of service.

SCAG Connect SoCal Consistency

The proposed project is considered a project of regionwide significance under the criteria in SCAG's Intergovernmental Review Procedures Handbook (November 1995) and Section 15206 of the CEQA Guidelines because the project would require a general plan amendment. A consistency analysis with SCAG's the Connect SoCal goals is warranted by SCAG. As described in Table 5.6-3, *SCAG's Connect SoCal Consistency Analysis*, the proposed project is generally consistent with the overarching goals of the RTP/SCS. OCTA bus routes (see Section 5.11, *Transportation*) are adjacent to the project site. The proposed project would result in high-density housing and employment within a half mile of transit. Therefore, the proposed project is consistent with SCAG's RTP/SCS, Connect SoCal.

⁸ 1,298 parking spaces required under the Municipal Code – 997 parking spaces = 292 parking spaces

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Table 5.6-3 SCAG's Connect SoCal Consistency Analysis

Goals	Consistency Analysis
RTP/SCS G1: Encourage regional economic prosperity and global competitiveness.	Consistent. The proposed project would revitalize the site by adding a mix of higher quality uses and amenities on-site, putting the site on a par with the top tier of newer, high-quality mixed-use environments in the broader Los Angeles and Orange County markets. The proposed project would result in additional employment and residential uses in Orange County, and therefore would be consistent with the RTP/SCS goals of improving regional economic development and competitiveness.
RTP/SCS G2: Improve mobility, accessibility, reliability, and travel safety for people and goods.	Consistent. The proposed project would include a mix of uses on the project site, which is within a half mile of transit stops. The proposed project would include rental cars for the use by apartment residents, and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea.
RTP/SCS G3: Enhance the preservation, security, and resilience of the regional transportation system.	Consistent. This goal is not directly applicable to the proposed project. However, the proposed project, which includes a mix of uses, is adjacent to transit stops (within a half mile) and therefore gives residents, employees, and visitors the opportunity to use public transportation. Additionally, the proposed project would include rental cars for the use of apartment residents, and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea.
RTP/SCS G4: Increase person and goods movement and travel choices within the transportation system.	Consistent. See response to RTP/SCS G-2.
RTP/SCS G5: Reduce greenhouse gas emissions and improve air quality.	Consistent. See response to RTP/SCS G-3. Long-term emissions generated by the proposed project would not produce criteria air pollutants that exceed the South Coast Air Quality Management District's significance thresholds for project operations or construction activities. The proposed project is a mixed-use development. The goal of the Mixed Use II zone is to encourage limited vehicle trips by emphasizing vertical or horizontal integration of uses with pedestrian linkages. The adjacent transit stops give residents, visitors, and employees the opportunity to use public transportation. The proposed project would include rental cars for the use of apartment residents, and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea.
RTP/SCS G6: Support healthy and equitable communities.	Consistent. See response to RTP/SCS G-5.
RTP/SCS G7: Adapt to a changing climate and support an integrated regional development pattern and transportation network.	Consistent. See response to G-5. The project would replace 1980s-era structures with mixed-use residential and office uses. The new uses would be constructed to achieve the 2019 Building and Energy Efficiency Standards and would be substantially more energy efficient than structures that predate the creation of building and energy efficiency standards.
RTP/SCS G8: Leveraging new transportation technologies and data-driven solutions that result in more efficient travel.	Consistent. This goal is not directly applicable to the proposed project. However, the goal of the Mixed Use II zone is to encourage limited vehicle trips by emphasizing vertical or horizontal integration of uses with pedestrian linkages. The adjacent transit stops give residents, visitors, and employees the opportunity to use public transportation. The proposed project would include rental cars for the use of apartment residents, and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea.

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Table 5.6-3 SCAG's Connect SoCal Consistency Analysis

Goals	Consistency Analysis
RTP/SCS G9: Encourage development of diverse housing types in areas that are supported by multiple transportation options.	Consistent. The proposed project would develop market-rate and affordable housing units onsite, which would be supported by transit in the area. Additionally, the proposed project would include rental cars for the use of apartment residents, and office tenants; create a rideshare waiting area; have rental bicycles available for use; and include a free Intra-Brea Transportation System for use by all people working, visiting, and living in Brea.
RTP/SCS G10: Promote conservation of natural and agricultural lands and restoration of habitats.	Consistent. The proposed project would be developed on an existing development parcel within the City of Brea, and therefore, would preserve natural and agricultural lands.

Source: SCAG 2020.

Level of Significance Before Mitigation: Less Than Significant.

5.6.5 Cumulative Impacts

Implementation of the proposed project in conjunction with other cumulative development in accordance with the City's General Plan could cause citywide land use and general planning impacts. As described above, the proposed project would generally be consistent with citywide and regional land use plans that have been adopted to reduce physical environmental impacts. Cumulative development projects in accordance with the General Plan would be subject to compliance with regional and local plans reviewed in this section. Other cumulative development would be reviewed by the City to ensure general consistency with local land use plans. Therefore, the proposed project combined with related projects would not result in cumulatively considerable impacts to land use and planning.

5.6.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.6.7 Mitigation Measures

No mitigation measures are required.

5.6.8 Level of Significance After Mitigation

Impacts would be less than significant.

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5.6.9 References

LSA. 2021, March 21. Parking Study for Brea Plaza Shopping Center, Brea, California. (Appendix K).

Southern California Association of Governments (SCAG). 2020a, September 3. Final 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).
https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial-plan_0.pdf?1606001176.

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5.7 NOISE

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Brea Plaza Expansion project to result in noise and vibration impacts to sensitive receptors in the vicinity of the project area. This chapter describes the fundamentals of sound, regulatory framework, existing noise conditions, identifies criteria used to determine impact significance, and identifies noise and vibration mitigation measures for potentially significant impacts. Noise modeling data is included as Appendix L to this Draft EIR.

5.7.1 Environmental Setting

5.7.1.1 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.” The following are brief definitions of terminology used in this section:

Technical Terminology

- **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}); also called the 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 10 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

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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 pm to 7:00 am.
- **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 pm to 10:00 pm and 10 dB from 10:00 pm to 7:00 am. For general community/environmental noise, 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.
- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.
- **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.
- **Vibration Decibel (VdB).** A unitless measure of vibration, expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the U.S., the standard reference velocity is 1 micro-inch per second (1x10⁻⁶ in/sec).

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, and 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 A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

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Sound Measurement

Sound pressure is measured through the A-weighted measure to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

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.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2 , L_8 , and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. These "L" values are typically used to demonstrate compliance for stationary noise sources with a city's noise ordinance, as discussed below. Other values typically noted during a noise survey are the L_{min} and L_{max} . These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, an artificial dBA increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 pm to 10:00 pm and 10 dBA for the hours from 10:00 pm to 7:00 am. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 pm and 10:00 pm. Both descriptors give roughly the same 24-hour level with the CNEL being only slightly more restrictive (i.e., higher).

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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. Table 5.7-1, *Typical Noise Levels*, shows typical noise levels from familiar noise sources.

Table 5.7-1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Onset of physical discomfort	120+	
	110	Rock Band (near amplification system)
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at three feet		
	90	
Diesel Truck at 50 feet, at 50 mph		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime		
	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans 2013.

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Vibration Fundamentals

Vibration is an oscillating motion in the earth. Like noise, vibration is transmitted in waves, but in this case through the earth or solid objects. Unlike noise, vibration is typically of a frequency that is felt rather than heard. Vibration amplitudes are usually described in terms of either the peak particle velocity (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 and RMS (typically expressed in VdB) for potential annoyance. The units for PPV are normally inches per second (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.

5.7.1.2 REGULATORY BACKGROUND

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, and municipalities in the state have established standards and ordinances to control noise.

Federal

There are no federal regulations that are directly relevant to the proposed project.

State

General Plan Guidelines

The State of California, through its General Plan Guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels expressed in CNEL. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements. Local municipalities adopt these compatibility standards as part of their General Plan and modify them as appropriate for their local environmental setting. The City of Brea standards are discussed below.

California Building Code

The California Building Code (CBC), Title 24, Part 2, Volume 1, Chapter 12, Section 1207.11.2, Allowable Interior Noise Levels, requires that interior noise levels attributable to exterior sources shall not exceed 45 dB

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in any habitable room. The noise metric is evaluated as either the day-night average sound level (L_{dn}) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

Residential structures within the noise contours identified above require an acoustical analysis showing that the structure has been designed to limit intruding noise in the prescribed allowable levels. To comply with these regulations, applicants of new residential projects are required to submit an acoustical report in areas where noise and land use compatibility are a concern. The report is required to analyze exterior noise sources affecting the proposed dwelling site, predicted noise spectra at the exterior of the proposed dwelling structure considering present and future land usage, basis for the prediction (measured or obtained from published data), noise attenuation measures to be applied, and an analysis of the noise insulation effectiveness of the proposed construction showing that the prescribed interior noise level requirements are met. If interior allowable noise levels are met by requiring that windows be inoperable or 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.

The State of California's noise insulation standards for nonresidential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11, California Green Building Standards Code (CALGreen). CALGreen noise standards are applied to new or renovation construction projects in California to control interior noise levels resulting from exterior noise sources. Proposed projects may use either the prescriptive method (Section 5.507.4.1) or the performance method (5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA $L_{eq(1hr)}$.

Local Noise Standards

City of Brea General Plan

The Public Safety Chapter of the City of Brea General Plan includes noise and vibration goals and policies that aim to minimize the impact of noise sources found in the city. The relevant noise goals and policies are listed below:

- **Goal PS-9:** Minimize the impact of point source noise and ambient noise levels throughout the community.
 - **Policy PS-9.1.** Evaluate the need to require acoustical studies for development proposals that address both direct and indirect, particularly traffic, noise impacts and require such studies, with appropriate mitigation included as warranted.
 - **Policy PS-9.3.** Ensure that acceptable noise levels are maintained near schools, hospitals, convalescent homes, and other noise sensitive areas in accordance with the City's Municipal Code and noise standards contained in the General Plan.

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- **Policy PS-9.4.** Employ creative methods of reducing noise pollution in the City.
- **Goal PS-2:** Minimize the impacts of transportation-related noise.
 - **Policy PS-2.1.** Reduce transportation noise by imposing traffic restrictions where necessary.
- **Goal PS-3:** Minimize noise impacts from sources other than transportation.
 - **Policy PS-3.1.** Require the inclusion of noise mitigation measures, techniques, and design features in the planning, design, and construction of future development and redevelopment projects.
 - **Policy PS-3.2.** Require that mixed-use structures be designed to prevent transfer of noise and vibration from commercial/retail to residential use.
 - **Policy PS-3.3.** Minimize stationary noise sources and noise emanating from construction activities and special events.

The City of Brea's primary goal is to minimize the exposure of residents to unhealthy and excessive noise levels. The City has adopted noise and land use compatibility guidelines, shown in Table 5.7-2, *Community Noise and Land Use Compatibility: City of Brea*.

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Table 5.7-2 Community Noise and Land Use Compatibility: City of Brea

Land Uses	CNEL or Ldn (dBA)					
	55	60	65	70	75	80
Residential-Low Density Single Family, Duplex, Mobile Homes						
Residential- Multiple Family						
Transient Lodging: Hotels and Motels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playground, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Businesses, Commercial and Professional						
Industrial, Manufacturing, Utilities, Agricultural						

Explanatory Notes

	Normally Acceptable: Specified land use is satisfactory, based on the assumption that any buildings are of normal conventional construction, without any special noise insulation requirements			Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in design.
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features included in design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.			Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Brea 2003.

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City of Brea Municipal Code

Stationary Noise

Chapter 8.20, *Noise Control*, provides exterior standards for all Zone 1 (entire territory of the City of Brea) residential properties. Table 5.7-3, *City of Brea Exterior Noise Standards*, summarizes allowable noise levels at the receiving property lines of residences. Per Section 8.20.090, the noise standards also apply to schools, hospitals, and churches while they are in use.

Table 5.7-3 City of Brea Exterior Noise Standards

Zone 1	Time Period	Exterior Noise Level, dBA				
		L ₅₀ ¹	L ₂₅ ²	L ₈ ³	L ₂ ⁴	L _{max} ⁵
Residential Daytime	7:00 am to 10:00 pm	55	60	65	70	75
Residential Nighttime	10:00 pm to 7:00 am	50	55	60	65	70

Source: City of Brea Municipal Code, Section 8.20.050 Exterior Noise Standards

Notes: A 5 dBA penalty shall be applied in the event of an alleged offensive noise such as impact noise, simple tones, speech, music, or any combination of thereof.

The standards are based on the following:

- ¹ The noise standard for a cumulative period of more than 30 minutes in any hour; or
- ² The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or
- ³ The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or
- ⁴ The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
- ⁵ The noise standard plus 20 dBA for any period of time.

Construction

Under Section 8.20.070, Special Provisions, the following are exempt from the provisions of the Municipal Code:

- Noise associated with construction, repair, remodeling, or grading of any real property is exempt from the provisions of the Municipal Code, provided said activities do not take place between the hours of 7:00 pm and 7:00 am on weekdays, including Saturday, or any time on Sunday or a federal holiday.

Vibration

Per Section 20.20.040, ground vibration is limited to no greater than 0.003 inches/second (in/sec) at receiving sensitive properties. This criterion is equivalent to approximately 70 VdB (root-mean-square vibration decibel level).

5.7.1.3 EXISTING CONDITIONS

The existing noise environment is predominately characterized by traffic noise. The project site is bounded by State Route 57 (SR-57) to the west, Imperial Highway (SR-90) to the south, and South Associated Road to the east. The northern portion of the project site is adjacent to the Mercury Insurance corporate campus. North of the Mercury Insurance corporate campus are single-family homes and Greenbriar Park to the northeast. Further to the east and southeast of the project site, across South Associated Road, are additional single-family homes. Directly south of Imperial Highway are commercial and retail uses. According to the Brea

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General Plan Future Noise Contours, the project site is within the 60 to 65 dBA and 65 to 70 dBA CNEL traffic noise contours.

Sensitive Receptors

Certain land uses, such as residences, schools, and hospitals, are particularly sensitive to noise and vibration. Sensitive noise receptors include residences, senior housing, schools, places of worship, and recreational areas. These uses are regarded as sensitive because they are where citizens most frequently engage in activities which are likely to be disturbed by noise, such as reading, studying, sleeping, resting, working from home, or otherwise engaging in quiet or passive recreation. Commercial and industrial uses are not particularly sensitive to noise. However, nonresidential structures are still analyzed for potential vibration impacts, such as architectural damage to a structure due to construction or demolition activities in close proximity. The nearest noise-sensitive receptors to the project are the single-family homes and Greenbriar Park to the north and northeast along Greenbriar Lane and single-family homes to the east across South Associated Road. The nearest off-site structure that could be susceptible to potential vibration damage is the Mercury Insurance building north of the project.

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 result in:

- N-1 Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- N-2 Generation of 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.

5.7.2.1 CONSTRUCTION NOISE THRESHOLDS

The City of Brea does not have an established noise limit for construction noise. The Federal Transit Authority (FTA) provides criteria for construction noise. The FTA criterion of 80 dBA $L_{eq(8hr)}$ for residential daytime is used in this analysis.

5.7.2.2 TRANSPORTATION NOISE THRESHOLDS

A project will normally have a significant effect on the environment related to noise if it will substantially increase 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. Note that a doubling of traffic flows (i.e., 10,000

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vehicles per day to 20,000 per day) would be needed to create a 3 dBA CNEL increase in traffic-generated noise levels. Based on this, the following thresholds of significance similar to those recommended by the Federal Aviation Administration, are used to assess traffic noise impacts at sensitive receptor locations. A significant impact would occur if traffic noise increase would exceed:

- 1.5 dBA in ambient noise environments of 65 dBA CNEL and higher;
- 3 dBA in ambient noise environments of 60 to 64 dBA CNEL; or
- 5 dBA in ambient noise environments of less than 60 dBA CNEL.

5.7.2.3 STATIONARY NOISE THRESHOLDS

As discussed above in Section 5.7.1.2, *Regulatory Background*, the City's noise ordinance establishes exterior noise standards at receiving residential Zone I property lines as well as schools, hospitals and churches. These standards are used to determine impact significance.

5.7.2.4 VIBRATION THRESHOLDS

Vibration Annoyance

The City of Brea establishes a threshold of 0.003 in/sec (70 VdB) for vibration at the sensitive receptor property line, which is used to determine impact significance.

Architectural Damage

The City of Brea does not have specific limits for vibration-induced architectural damage related to construction activities. The FTA provides criteria for acceptable levels of groundborne vibration for various types of buildings, and the FTA criteria are used in this analysis. Table 5.7-4, *Groundborne Vibration Criteria: Architectural Damage*, summarizes the thresholds below.

Table 5.7-4 Groundborne Vibration Criteria: Architectural Damage

Building Category		PPV (in/sec)
I.	Reinforced concrete, steel, or timber (no plaster)	0.5
II.	Engineered concrete and masonry (no plaster)	0.3
III.	Non-engineered timber and masonry buildings	0.2
IV.	Buildings extremely susceptible to vibration damage	0.12

Source: FTA 2018.

PPV = peak particle velocity

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5.7.3 Plans, Programs, and Policies

- | | |
|-----------|--|
| PPP NOI-1 | Project-related construction activity will be limited to the hours of 7:00 am to 7:00 pm on weekdays and Saturdays. Construction is prohibited on Sundays. |
| PPP NOI-2 | The project will comply with the City of Brea's stationary exterior noise standards, summarized above in Table 5.7-3. |
| PPP NOI-3 | The project will comply with the City of Brea's vibration standards of 70 VdB at the property line of the sensitive receptor. |
| PPP NOI-4 | The residential development will comply with the California Building Code (CBC), Part 2, Volume 1, Chapter 12, Section 1207.11.2, Allowable Interior Noise Levels. Nonresidential development will comply with the CBC, Building Standards Administrative Code, Part 11, CALGreen. |
| PPP NOI-5 | Outdoor nonresidential uses in mixed-use projects shall be prohibited from operating between the hours of 10:00 pm and 7:00 am in accordance with Section 20.258.030 (H)(1), Hours of Operation of the Brea Municipal Code. |
| PPP NOI-6 | The covenants, conditions, and restrictions of a mixed-use project shall indicate the times when the loading and unloading of goods may occur on the street, provided that in no event shall loading or unloading take place after 10:00 pm or before 7:00 am on any day of the week in accordance with Section 20.258.030 (H)(3), Loading and Unloading Activities, of the Brea Municipal Code. |
| PPP NOI-7 | Residents of a mixed-use development project shall be notified in writing before taking up residence that they will be living in an urban type of environment and that the noise levels may be higher than a typical residential area. The covenants, conditions, and restrictions of a mixed-use project shall require that the residents acknowledge their receipt of the written noise notification. Their signatures shall confirm receipt and understanding of this information in accordance with Section 20.258.030 (H)(4), Noise Notification, of the Brea Municipal Code. |
| PPP NOI-8 | Residential dwelling units shall be designed to be sound attenuated against present and future project noise. New projects or new nonresidential uses in existing projects shall provide an acoustical analysis report, by an acoustical engineer, describing the acoustical design features of the structure required to satisfy the exterior and interior noise standards in accordance with Section 20.258.030 (H)(6), Sound Mitigation, of the Brea Municipal Code. |
| PPP NOI-9 | Noise-generating equipment (refrigeration units, air conditioning, exhaust fans, etc.) shall require special consideration in their location and screening in order to avoid creating a nuisance in accordance with Section 20.258.030 (K)(3), Noise Generating Equipment. |

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5.7.4 Environmental Impacts

5.7.4.1 METHODOLOGY

This noise evaluation was prepared in accordance with the requirements of CEQA to determine if the proposed project would result in significant construction and operational impacts at nearby sensitive receptors. Due to the *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 (No. S 213478) ruling issued December 17, 2015, noise compatibility for on-site sensitive receptors is generally no longer the purview of the CEQA. However, the City requires projects to be designed to achieve the interior noise standards of the California Building Code for residential uses per PPP NOI-4, which require exterior-to-interior noise insulation sufficient to achieve interior noise levels of 45 dBA CNEL prior to the issuance of a building permit. An acoustical report is required by PPP NOI-8. However, no significance determination is required for the noise and land use compatibility of the proposed future uses.

Construction noise modeling was conducted using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). Traffic noise increases were estimated using average daily traffic (ADT) along study roadway segments provided by Linscott Law & Greenspan, Engineers (see Appendix J2).¹ Noise impacts from nontransportation, stationary noise sources are based on the noise limits of the City of Brea Municipal Code. Vibration impacts are assessed using methodology included in the FTA guideline document on noise and vibration impact assessment (FTA 2018).

5.7.4.2 IMPACT ANALYSIS

Impact 5.7-1: Construction activities would result in temporary noise increases in the vicinity of the proposed project. [Threshold N-1]

Two types of short-term noise impacts could occur during construction: (1) mobile-source noise from transport of workers, material deliveries, and debris and soil haul and (2) stationary-source noise from use of construction equipment. Construction is anticipated to start in June of 2022 and be completed by June of 2024. Per PPP NOI-1, project-related construction activity will be limited to the hours of 7:00 am to 7:00 pm on weekdays and Saturdays. Construction is prohibited on Sundays.

Construction Vehicles

The transport of workers and materials to and from the construction site would incrementally increase noise levels along roadways in the vicinity of the project site. Individual construction vehicle pass-bys and haul truck trips may create momentary noise levels of up to approximately 85 dBA (L_{max}) at 50 feet from the vehicle, but these occurrences would generally be infrequent and short lived.

Construction generates temporary worker and vendor trips, and the number of trips vary by activity phase. Construction vehicles would generate up to 150 daily vendor and worker trips at their peak during trenching. The project would generate a maximum of 114 daily haul truck trips during building demolition debris haul

¹ Traffic noise increase = $10 \cdot \log(\text{existing plus project volume} / \text{existing volume})$; Cumulative increase = $10 \cdot \log(\text{future plus project volume} / \text{existing volume})$.

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for two work days. This increase in haul trucks and construction vehicles trips would result in a negligible noise increase of less than 1 dBA CNEL when compared to existing average daily trips—from 13,595 to 73,409 (LLG 2021)—along nearby roadway segments in the project vicinity. Therefore, noise impacts related to temporary construction vehicle trips would be less than significant.

Construction Noise

Noise generated by on-site construction equipment is based on the type of equipment used, its location relative to sensitive receptors, and the timing and duration of noise-generating activities. Each phase of construction involves different types of equipment and has distinct noise characteristics. Noise levels from construction activities are typically dominated by the loudest several pieces of equipment. The dominant equipment noise source is typically the engine, although work-piece noise (such as dropping of materials) can also be noticeable.

Heavy equipment, such as a dozer or a loader, can have maximum, short-duration noise levels of up to 85 dBA at 50 feet. However, overall noise emissions vary considerably, depending on the specific construction activity performed at any given moment. Noise attenuation due to distance, the number and type of equipment, and the load and power requirements to accomplish tasks at each construction phase would result in different noise levels from construction activities at a given receptor. Since noise from construction equipment is intermittent and diminishes at a rate of at least 6 dBA per doubling of distance (conservatively ignoring other attenuation effects from air absorption, ground effects, and shielding effects), the average noise levels at noise-sensitive receptors could vary considerably, because mobile construction equipment would move around the project site with different loads and power requirements.

Noise levels were calculated at spatially averaged distances (i.e., from the acoustical center of the construction site) to the property line of the nearest receptors. Although construction may occur across the entire construction area, the center of construction activities best represents the potential average construction-related noise levels associated with the single mixed-use building at the various sensitive receptors.

PlaceWorks used construction phase activity information provided by the applicant to estimate construction noise using the FHWA RCNM. The average noise produced during each construction phase is determined by combining the L_{eq} contributions from the three loudest pieces of construction equipment, while accounting for the ongoing time variations of noise emissions (commonly referred to as the usage factor).

The associated, aggregate sound levels—grouped by construction activity—are summarized in Table 5.7-5, *Project-Related Construction Noise*. RCNM modeling input and output worksheets are included in Appendix L. As shown in Table 5.7-5, construction related noise levels would not exceed the 80 dBA $L_{eq(8hr)}$ threshold at the nearest sensitive receptors and, therefore, would be less than significant.

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Table 5.7-5 Project-Related Construction Noise at Sensitive Receptors

Construction Activity Phase	Leq dBA			
	RCNM Reference Noise Level at 50 feet	Residences to north at 660 feet	Residences to east at 750 feet	Greenbriar Park to northeast at 1,120 feet
Building and Asphalt Demolition	80	58	56	53
Site Preparation	80	57	56	53
Grading	79	57	55	52
Building Construction-Parking Garage	79	57	56	52
Building Construction-Commercial/Residential	73	50	49	46
Utility Trenching	75	53	52	48
Paving (all ground floor)	79	57	55	52
Architectural Coating	78	55	54	50
Finish and Landscaping	77	55	54	50
Maximum Leq dBA	80	58	56	53

Notes: Calculations performed with the FHWA's RCNM software are included in Appendix L.

Distances measured from the construction site acoustical center to sensitive receptor property line. Noise levels rounded up the nearest whole number.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.7-2 Project implementation would result in long-term operation-related noise that would not exceed local standards. [Threshold N-1]

Stationary Noise*Mechanical Equipment*

The proposed project would have heating, ventilation, and air conditioning systems (HVAC). Mechanical equipment is anticipated to be installed on the roof of the proposed mixed-use building and would be similar to the surrounding existing retail and commercial buildings. HVAC equipment typically generates noise levels of 72 dBA at a distance of 3 feet and would diminish at a rate of at least 6 dBA per doubling of distance (conservatively ignoring other attenuation from ground and shielding effects). The nearest sensitive receptors are single-family homes to the north and east, approximately 500 to 550 feet, respectively. At these distances, HVAC noise would attenuate to approximately 28 dBA or less, which would not exceed the nighttime threshold of 50 dBA L₅₀. This impact would be less than significant.

Outdoor Common Areas

The project proposes an outdoor common area for residents and guests. The main components are patios, a pool, a barbeque area with outdoor seating, an entertainment cabana, an open lawn area, and garden. This area would be on the rooftop of the proposed building. Noise would consist mostly of people talking. It is over 500 feet from the nearest edge of the proposed outdoor common space to the noise-sensitive receptors to the north and east. No amplified music or public address systems are proposed. In addition, existing buildings at Brea Plaza would provide acoustical shielding. Therefore, noise associated with project

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recreational activities would be localized and is not anticipated to be audible at the nearest sensitive receptors over existing noise levels. This impact would be less than significant.

Loading and Deliveries

The proposed project is a mixed-use building with residential and office components. Some loading and unloading activities may occur from deliveries (supplies) to the proposed office uses. These activities would not be a new type of noise source to the project area since multiple loading areas currently exist. The nearest receptors from the edge of the project site are about 500 to 550 feet. Additionally, the Mercury Insurance building to the north and the adjacent building east of the project would provide substantial acoustical shielding to residential receptors to the north and east. Per PPP NOI-6, loading or unloading is prohibited after 10:00 pm or before 7:00 am on any day. Noise associated with occasional loading and unloading from the proposed project would be less than significant.

Traffic Noise

Roadway segment ADT volumes were provided by Linscott Law & Greenspan Engineers (LLG, see Appendix J2). To determine the project-related traffic noise increase, the Existing with Project ADT volumes were compared to the Existing no Project ADT volumes, as shown in Table 5.7-6, *Summary of Traffic Noise Increases*. As a result of the decrease in vehicle trips from demolition of the movie theater, the project would result in a net decrease in ADT volumes on study roadway segments, resulting in a decrease in traffic noise levels. Therefore, the proposed project would result in a beneficial impact in traffic noise levels, and no impact would occur.

Table 5.7-6 Summary of Traffic Noise Increases

Roadway Segment	Average Daily Traffic Volumes				dBA CNEL	
	Existing no Project	Existing with Project	2045 without Project	2045 with Project	Project Noise Increase	Cumulative Noise Increase
Imperial Highway, west of SR-57 NB Ramps	73,409	72,516	86,609	85,716	-0.1	0.7
Imperial Highway, between SR-57 NB Ramps and Associated Road	54,650	54,884	61,223	61,457	0	0.5
Imperial Highway, between Associated Road and Castlegate Lane/Placentia Avenue	52,514	52,251	60,178	59,915	0	0.6
Imperial Highway, east of Castlegate Lane/Placentia Avenue	52,689	52,536	59,540	59,387	0	0.5
Associated Road, south of Birch Street	13,595	13,510	14,911	14,826	0	0.4
Birch Street, west of Associated Road	25,204	25,164	28,169	28,129	0	0.5
Birch Street, east of Associated Road	24,697	24,644	27,763	27,710	0	0.5

Source: See Appendix L. Based on traffic volumes provided by LLG (see Appendix J2).

Level of Significance Before Mitigation: Less Than Significant.

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Impact 5.7-3: The project would create short-term groundborne vibration. [Threshold N-2]

Construction Vibration

Potential vibration impacts associated with development projects are usually related to the use of heavy construction equipment during the demolition and grading phases of construction. Construction can generate varying degrees of ground vibration depending on the construction procedures and equipment. Construction equipment generates vibration that spreads through the ground and diminishes with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The effects from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures. Pile driving is not proposed.

Vibration Annoyance

The City of Brea has established a vibration perceptibility threshold of 70 VdB, as discussed above in Section 5.7.1.2, *Regulatory Background*. Table 5.7-7, *Vibration Levels for Typical Construction Equipment (VdB)*, shows VdB levels at a reference distance of 25 feet and attenuated levels at the nearest sensitive receptors. As shown in Table 5.7-7, vibration decibels would attenuate to 51 VdB or less. Therefore, impacts would be less than significant.

Table 5.7-7 Vibration Levels for Typical Construction Equipment (VdB)

Construction Activity Phase	Levels in VdB		
	FTA Reference Level at 25 feet	Residences to north at 660 feet	Residences to east at 750 feet
Vibratory Roller	94	51	50
Hoe Ram	87	44	43
Large Bulldozer	87	44	43
Caisson Drilling	87	44	43
Loaded Trucks	86	43	42
Jackhammer	79	36	35
Small Bulldozer	58	15	14

Source: FTA 2018. Calculations included in Appendix L.

Notes: Distances measured from the acoustical center of construction site to sensitive receptor property line. Vibration levels rounded up the nearest whole number.

Architectural Damage

The FTA criteria for architectural damage varies based on the building category. The applicable FTA threshold for the surrounding off-site commercial structures is 0.30 in/sec PPV, and the applicable FTA threshold for residential uses is 0.20 in/sec PPV. At a distance greater than approximately 20 feet, construction-generated vibration levels at the commercial buildings would be less than the 0.30 in/sec PPV threshold, and at a distance greater than approximately 25 feet, vibration levels would be less than the 0.20 in/sec PPV threshold.

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The nearest off-site commercial structure is the Mercury Insurance building, approximately 20 feet north of the project site, and the nearest residential structures are approximately 550 feet north of the project site. Table 5.7-8, *Vibration Impact Levels for Typical Construction Equipment (in/sec PPV)*, summarizes vibration levels at the various receptors. As shown in the table, vibration levels would not exceed the 0.30 and 0.20 in/sec PPV thresholds at the nearest receptors. Impacts would be less than significant.

Table 5.7-8 Vibration Levels for Typical Construction Equipment (in/sec PPV)

Equipment	Levels in in/sec, PPV		
	Reference levels at 25 feet	Commercial to north at 20 feet ¹	Residential to north at 550 feet ¹
Vibratory Roller	0.21	0.282	0.002
Hoe Ram	0.089	0.124	0.001
Large Bulldozer	0.089	0.124	0.001
Caisson Drilling	0.089	0.124	0.001
Loaded Trucks	0.076	0.106	0.001
Jackhammer	0.035	0.049	< 0.001
Small Bulldozer	0.003	0.004	< 0.001

Source: FTA 2018. Calculations included in Appendix L.

¹ As measured from the nearest edge of construction site to structure/building facade.

Operational Vibration

The proposed project would not create or cause any significant vibration impacts due to project operations. This impact would be less than significant.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.7-4: The proximity of the project site to an airport or airstrip would not result in exposure of future resident or workers to excessive airport-related noise. [Threshold N-3]

The nearest airport or airstrip to the proposed project is Fullerton Municipal Airport, approximately 6.25 miles to the southwest. At this distance, the project would not expose future residents or workers to excessive aircraft noise. There would be no impact.

Level of Significance Before Mitigation: No Impact.

5.7.5 Cumulative Impacts

Cumulative Traffic Noise

As shown in Table 5.7-6, *Summary of Traffic Noise Increases*, the cumulative traffic noise increase would be up to 0.7 dBA CNEL. This increase would not be greater than the 1.5 dBA CNEL threshold (lowest threshold), and the project contribution would be less than 1 dBA CNEL. Therefore, cumulative traffic noise impacts would be less than significant.

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NOISE

Cumulative Construction

If project construction were to overlap with cumulative project construction in the project vicinity, noise could combine to result in significant cumulative impacts. There are four projects within a half mile of the proposed project (see Table 4-1, *Location and Description of Cumulative Projects*). The Brea Mall Mixed Use project is approximately 0.2 mile to the northwest, the Brea Imperial Center project is approximately 0.4 mile southwest and across SR-57, the Brea Place project is approximately 0.45 mile northwest, and the Alvera Assisted Living project is approximately 0.45 mile west across SR -57 and Brea Mall. However, there are no cumulative projects in the immediate vicinity (i.e., 1,000 feet or less) of the proposed project, and the project would not contribute to a significant cumulative construction noise impact.

5.7.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and PPP, the following impacts would be less than significant: 5.7-1, 5.7-2, 5.7-3 and 5.7-4.

5.7.7 Level of Significance After Mitigation

No impacts were found to be significant without mitigation.

5.7.8 References

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5.8 POPULATION AND HOUSING

This section of the Draft Environmental Impact Report (DEIR) examines the potential for socioeconomic impacts of the proposed Brea Plaza Expansion project in the City of Brea, including changes in population, employment, and demand for housing, particularly housing cost/rent ranges defined as “affordable.” According to Section 15382 of the CEQA Guidelines, “An economic or social change by itself shall not be considered a significant impact on the environment.” Socioeconomic characteristics should be considered in an EIR only to the extent that they create impacts on the physical environment.

5.8.1 Environmental Setting

5.8.1.1 REGULATORY BACKGROUND

State

California Housing Element Law

California planning and zoning law requires each city and county to adopt a general plan for future growth (California Government Code § 65300). This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, the Housing and Community Development Department (HCD) estimates the relative share of California’s projected population growth that would occur in each county based on California Department of Finance population projections and historical growth trends. These figures are compiled by HCD into a Regional Housing Needs Assessment (RHNA) for each region of California. Where there is a regional council of governments, the HCD provides the RHNA to the council. The council assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares gives cities and counties the opportunity to comment on the proposed allocations. The HCD oversees the process to ensure that the councils of governments distribute their shares of the state’s projected housing need.

State law recognizes the vital role local governments play in the supply and affordability of housing. To that end, California Government Code requires that the housing element achieve legislative goals to:

- Identify adequate sites to facilitate and encourage the development, maintenance, and improvement of housing for households of all economic levels, including persons with disabilities.
- Remove, as legally feasible and appropriate, governmental constraints to the production, maintenance, and improvement of housing for persons of all incomes, including those with disabilities.
- Assist in the development of adequate housing to meet the needs of low and moderate income households.
- Conserve and improve the condition of housing and neighborhoods, including existing affordable housing. Promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, familial status, or disability.

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- Preserve for lower income households the publicly assisted multifamily housing developments in each community.

California housing element laws (California Government Code §§ 65580–65589) require that each city and county identify and analyze existing and projected housing needs within its jurisdiction and prepare goals, policies, and programs to further the development, improvement, and preservation of housing for all economic segments of the community commensurate with local housing needs. The City of Brea General Plan Housing Element was updated in 2013 for the 2014–2021 cycle.

Housing Accountability Act

The Housing Accountability Act (HAA) requires that cities approve applications for residential development that are consistent with a city's general plan and zoning code development standards without reducing the proposed density. Examples of objective standards are those that are measurable and have clear criteria that are determined in advance, such as numerical setback, height limit, universal design, lot coverage requirement, or parking requirement. Under the HAA, an applicant is entitled to the full density allowed by the zoning and/or general plan provided the project complies with all objective general plan, zoning, and subdivision standards and provided that the full density proposed does not result in a specific, adverse impact on public health and safety that cannot be mitigated to less than significant.

Assembly Bill (AB) 678 amends the HAA by increasing the documentation and standard of proof required for a local agency to legally defend its denial of low- to moderate-income housing development projects. If the local agency considers the housing development project to be inconsistent, not in compliance, or not in conformity, this bill requires the local agency to give the applicant, within specific time periods, written documentation identifying the provision or provisions and an explanation of the reason or reasons it considers the housing development to be inconsistent, not in compliance, or not in conformity. If the local agency fails to provide this documentation, the housing development project is deemed consistent, compliant, and in conformity with the applicable plan, program, policy, ordinance, standard, requirement, or other similar provision.

AB 1515: Reasonable Person Standard

AB 1515 specifies that a housing development project is deemed consistent, compliant, and in conformity with an applicable plan, program, policy, ordinance, standard, requirement, or other similar provision if there is substantial evidence that would allow a reasonable person to conclude that the housing development project or emergency shelter is consistent, compliant, or in conformity. This bill added additional findings related to the HAA in this regard.

Senate Bill 330

SB 330, the Housing Crisis Act of 2019, states that until January 1, 2025, an application is deemed complete if a preliminary application was submitted and it complied with the applicable general plan and zoning standards in effect at the time. Planning and zoning law requires a public hearing on a variance from the requirements of a zoning ordinance or a conditional use permit. However, this bill prohibits any city or

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county from conducting more than five hearings pursuant to these provisions if a housing development project complies with the applicable general plan and zoning standards in effect at the time the application is deemed complete. Additionally, this bill reduces the time within which a lead agency can approve or disapprove a project, from 120 days to 90 days.

Regional

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 (MPO) 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 MPO, SCAG cooperates with the South Coast Air Quality Management District, the California Department of Transportation, and other agencies in preparing regional planning documents. The City of Brea is within the Orange County Council of Governments subregion of SCAG.

Connect SoCal

SCAG develops regional plans to achieve specific regional objectives. In September 2020, SCAG adopted the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (2020–2045 RTP/SCS or “Connect SoCal”), a long-range visioning plan that balances future mobility and housing needs with mobility, economy, healthy/complete communities, and the environment (SCAG 2020a). This long-range plan, which is a requirement of the state of California and the federal government, is updated by SCAG every four years as demographic, economic, and policy circumstances change. A component of the RTP/SCS is a set of growth forecasts that estimates employment, population, and housing growth. These estimates are used by SCAG, transportation agencies, and local agencies to anticipate and plan for growth. The most recent jurisdictional growth forecasts are from the 2020-2045 RTP/SCS.

Local

Brea General Plan

Development of housing in the city is guided by the goals, objectives, and policies of the general plan and housing element. The housing element includes the following policies on population and land use:

- **Policy HE-3.1. Variety of Housing Choices.** Provide site opportunities for development of housing that responds to diverse community needs in terms of housing type, cost and location, emphasizing locations near services and transit that promotes walkability.
- **Policy HE-3.3. Residential Mixed Use.** Promote the efficient use of land by encouraging commercial and residential uses on the same property in both horizontal and vertical mixed-use configurations.

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- **Policy HE-3.4. Reuse Sites.** Explore reuse opportunities on obsolete or underutilized commercial and industrial sites.
- **Policy HE-4.2. Flexible Development Guidelines.** Provide flexibility in development/design guidelines to accommodate new models and approaches to providing housing, such as transit-oriented development, mixed-use, and live/work housing.
- **Policy HE-6.1. Smart Growth.** Preserve open space and environmental habits, while accommodating new growth in compact forms in a manner that de-emphasizes the automobile. Evaluate expanded locations for mixed use development, focusing on sites along OCTA's future bus rapid transit (BRT) corridors.
- **Policy HE-6.4. Healthy Community.** Promote healthy living and physical activity through decisions in the location, site planning, and design of housing and mixed-use development.
- **Policy HE-6.5. Transportation Alternatives and Walkability.** Incorporate transit and other transportation alternatives including walking and bicycling into the design of new development, particularly in areas within a half-mile of designated transit stops and the City's "Tracks at Brea" walking and biking trail system.
- **Policy HE-6.6. Jobs/Housing Balance.** Encourage a closer link between housing and jobs in the community, including housing opportunities to Brea's modest income workforce.

Brea Municipal Code

The City of Brea has an Affordable Housing Ordinance, Chapter 20.40 of the City's Municipal Code, which requires developers of residential projects with 20 or more units to provide 10 percent of the total number of units for housing affordable to low- and moderate-income households or pay an in-lieu fee provided the city determines the development of the affordable units does not place an economic burden on the developer or the future homeowners. In order to determine the economic feasibility of the affordable units in the residential projects, the developer is required to submit to the Development Services Director detailing the anticipated costs and revenues of the project, which is reviewed and approved by the city.

5.8.1.2 EXISTING CONDITIONS

Population

Table 5.8-1, *Population Trends in Brea*, shows the population trends and percent change in the city from 2009 through 2019.

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POPULATION AND HOUSING**Table 5.8-1 Population Trends in Brea**

Year	Population	Percent Change
2009	38,086	N/A
2010	38,427	0.90%
2011	38,837	1.07%
2012	39,384	1.41%
2013	39,843	1.17%
2014	40,443	1.51%
2015	40,931	1.21%
2016	41,351	1.03%
2017	41,921	1.38%
2018	42,330	0.98%
2019	42,678	0.82%

Source: US Census Bureau 2021a.

Housing*Housing Growth Trends*

Table 5.8-2, *Housing Growth Trends in Brea*, shows the rate of housing growth from 2009 to 2019 and how it has varied over the years.

Table 5.8-2 Housing Growth Trends in Brea

Year	Housing Units	Percent Change
2009	14,596	N/A
2010	14,910	2.15%
2011	14,859	-0.34%
2012	14,620	-1.61%
2013	14,759	0.95%
2014	14,760	0.01%
2015	14,820	0.41%
2016	15,205	2.60%
2017	15,616	2.70%
2018	15,558	-0.37%
2019	15,923	2.35%

Source: US Census Bureau 2021b.

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Regional Housing Needs Assessment

As shown in Table 5.8-3, *City of Brea 2014–2021 RHNA*, Brea’s RHNA allocation for the 2014–2021 planning period is 1,851 units. This number was calculated by SCAG based on the city’s share of the region’s employment growth, migration and immigration trends, and birth rates.

Table 5.8-3 City of Brea 2014–2021 RHNA

Income Category (% of County AMI ¹)	Number of Units	Percentage
Extremely Low Income (30% or less) ²	213	11.5%
Very Low (31% to 50%)	213	11.5%
Low (51% to 80%)	305	17%
Moderate (81% to 120%)	335	18%
Above Moderate (Over 120%)	785	42%
Total	1,851	100%

Source: Brea 2013.

¹ AMI = area median income

² An estimated half of the city’s 426 very low income housing needs (213 units) are for extremely low income households earning less than 30% AMI.

Employment

Employment Trends

According to the California Employment Development Department, the average employment rate in Brea increased from 2010 to 2020. The average annual employment rate and percentage changes are shown in Table 5.8-4, *Average Employment Trends in Brea*.

Table 5.8-4 Average Employment Trends in Brea

Year	Employment (persons)	Percent Change
2010	18,900	N/A
2011	19,100	1.06%
2012	19,600	2.62%
2013	20,000	2.04%
2014	20,400	2.00%
2015	21,000	2.94%
2016	21,500	2.38%
2017	21,800	1.40%
2018	22,500	3.21%
2019	22,300	-0.89%
2020	20,200	-9.42%

Source: EDD 2021.

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Existing Employment

Table 5.8-5, *Brea's Industry by Occupation (2010 and 2019)*, shows the city's total workforce by occupation and industry in 2010 and 2019. According to the estimates of the US Census Bureau, Brea had an employed civilian labor force (16 years and older) of 19,761 in 2009 and 22,266 in 2019. The three largest occupational categories in 2010 and 2019 were Educational services, and health care and social assistance; Manufacturing; and Retail Trade.

Table 5.8-5 Brea's Industry by Occupation (2010 and 2019)

Industry/Occupation	Employees in 2010	Employees in 2019	Percentage of Workforce in 2019
Agriculture, forestry, fishing and hunting, and mining	83	98	0.44%
Construction	1,192	1,354	6.08%
Manufacturing	2,623	2,480	11.145%
Wholesale Trade	1,030	1,224	5.50%
Retail trade	2,156	2,453	11.02%
Transportation and warehousing, and utilities	804	912	4.10%
Information	467	302	1.36%
Finance and insurance, and real estate and rental and leasing	1,749	2,057	9.24%
Professional, scientific, and management, and administrative and waste management services	2,102	2,269	10.19%
Educational services, and health care and social assistance	4,461	5,872	26.37%
Arts, entertainment, and recreation, and accommodation and food services	1,409	1,661	7.46%
Other services, except public administration	805	950	7.46%
Public administration	880	634	4.27%
Total	19,761	22,266	100%

Source: US Census Bureau 2021c.

Note: Employment figures count civilian employees 16 years and older.

Growth Projections

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SCAG undertakes comprehensive regional planning with an emphasis on transportation. The 2020-2045 RTP/SCS provides the most current jurisdictional projections of population, households, and total employment for Brea. The 2045 projections are summarized in Table 5.8-6, *SCAG Growth Projections for Brea*.

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Table 5.8-6 SCAG Growth Projections for Brea

	2016	2045
Population	43,900	48,000
Households	15,300	17,000
Housing Units ¹	14,535	16,150
Employment	50,400	54,400
Jobs-Housing Ratio	3.47	3.37

Source: SCAG 2020b.

¹ Housing units in SCAG projections are estimated based on number of households and a healthy vacancy rate of 5 percent.

Jobs-Housing Ratio

The jobs-housing ratio is a general measure of the number of jobs versus housing in a defined geographic area without regard to economic constraints or individual preferences. The jobs-housing ratio, as well as the type of jobs versus the price of housing, has implications for mobility, air quality, and the distribution of tax revenues. A project's effect on the jobs-housing ratio is one indicator of how it will affect growth and quality of life in the project area. SCAG applies the jobs-housing ratio at the regional and subregional levels in order to analyze the fit between jobs, housing, and infrastructure. A main focus of SCAG's regional planning efforts has been to improve this balance; however, jobs-housing goals and ratios are only advisory. There is no ideal jobs-housing ratio adopted in state, regional, or city policies. The American Planning Association is an authoritative resource for community planning best practices, including recommendations for assessing jobs-housing ratios. Although it recognizes that an ideal jobs-housing ratio will vary across jurisdictions, it recommends a target of 1.5 and a range of 1.3 to 1.7 (Weitz 2003). As shown in Table 5.8-6, based on SCAG's growth projections, Brea is projected to be a jobs-rich community, with the number of jobs increasing at a faster rate than the number of housing units.

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:

- P-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).
- P-2 Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

5.8.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP) are identified below, including applicable regulatory requirements and conditions of approval for GHG emissions.

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PPP POP-1 The project is required to adhere the City's Affordable Housing Ordinance (Municipal Code Chapter 20.40), which requires developers of residential projects with 20 or more units to provide 10 percent of the units for housing affordable to low- and moderate-income households or pay an in-lieu fee.

5.8.4 Environmental Impacts

Impact 5.8-1: The proposed project would directly result in population growth of approximately 405 residents and 49 employees on the project site but would not induce substantial additional growth. [Threshold P-1]

The following describes potential impacts associated with demolition of the existing movie theater and subsequent construction and operation of 189 units¹ and 21,355 square feet of co-working office space.

Construction

Construction of the proposed project would require contractors and laborers. Because of the size of the project, the City expects that the supply of general construction labor would be available from the local and regional labor pool. The proposed project would not result in a long-term increase in employment from short-term construction activities.

Population

Based on the US Census Bureau's American Community Survey, the weighted average household in Brea, for renters who live in structures with 50 or more units, is 2.01 persons per unit (US Census 2020a, 2020b²). The DEIR uses this conservative estimate of 2.01 persons per unit for the regular multifamily units, and 1 person per bedroom for the co-living units³ to forecast the number of people generated by the proposed project.

Once the proposed project is complete, the 189 dwelling units (including co-living units) would be expected to add 405 residents.⁴ When compared to the 2021 estimated population of 45,137, the proposed project would result in a 0.90 percent increase in Brea's population (DOF 2021).

As shown in Table 5.8-6, SCAG's 2045 estimated population for Brea is 48,000, which is an increase of 2,863 residents from the DOF 2021 estimated population of 45,137 residents.⁵ The potential 405 new residents of the proposed project would make up approximately 14.15 percent of the proposed 25-year increase for the

¹ The proposed project would include 189 units (134 regular units, 15 co-living units [five 3-bedroom units + ten 4-bedroom units = 55 units])

² Based on Table B25124, Tenure by Household Size by Units in Structure, and Table S2504, Physical Housing Characteristics for Occupied Housing Units.

³ The proposed project would only allow 1 person per co-living unit.

⁴ 189 units (174 regular units, 15 co-living units [five 3-bedroom units + ten 4-bedroom units = 55 units])

174 units x 2.01 = 349.74 = 350 persons

55 units x 1 = 55 persons

350 persons + 55 persons = 405 residents

⁵ Total 2021 population estimate for Brea is as of January 1, 2021 (DOF 2021).

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city based on the SCAG RTP/SCS. Therefore, project implementation would not exceed SCAG population projections.

Employment

The proposed project would add a 21,355-square-foot co-working office space, and it would create 75 employment opportunities,⁶ but would result in a reduction of 26 employees associated with the demolition of the movie theater.⁷ As a result, with the proposed project, the Brea Plaza shopping center would have a net increase of 49 employees for a total of 284 employees compared to the 235 employees under existing conditions, as shown in Table 5.8-7, *Project Population and Employment Estimates*. When compared to the citywide 2020 estimated employment of 20,200 employees, the proposed project would result in an approximately 0.24 percent increase in employees in the city (EDD 2021).

As shown in Table 5.8-6, SCAG's 2045 estimated employment for the City of Brea is 54,400, which is an increase of 34,200 employees from the EDD's 2020 estimated employment of 20,200 employees. The potential 49 new employees of the proposed project would be 0.14 percent of the projected 25-year increase for the city based on the SCAG RTP/SCS. Therefore, project implementation would not exceed SCAG employment projections.

Table 5.8-7 Project Population and Employment Estimates

	Existing Brea Plaza Shopping Center	Net Change (Expansion)	Total Brea Plaza Shopping Center with the Proposed Project
Population ¹	0	405	405
Total Employees	235	49	284

Notes:

¹ The weighted average household size in Brea for renters who live in structures with 50 or more units is 2.01 persons per unit (US Census 2020a, 2020b) and is applied to the non-co-living units of the proposed project. The proposed project would only allow 1 person per co-living unit; thus, a generation rate of 1 person per co-living unit was used.

Housing

The proposed project would provide more housing opportunities in the city. There are 15,923 dwelling units in the City in 2019. The project's 189 units would increase housing in the city by 1.2 percent and would represent 12 percent of the city's forecast housing growth of 1,615 units from 2016 to 2045 (see Table 5.8-6). The proposed project would be within SCAG's projected housing growth. Moreover, the state of California has a shortage of housing. In 2019, Governor Newsom signed several bills aimed to address the need for more housing, including the Housing Crisis Act of 2019 (Senate Bill 330). The proposed project addresses the need for additional housing to accommodate population growth in the city.

⁶ 21,355 square feet / 287 square feet/employee (SCAG 2001) = 74.41 = 75 employees

⁷ 18,450 square feet / 704 square feet/employee (SCAG 2001) = 26.21 = 26 employees

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Jobs-Housing Balance

A project's effect on the jobs-housing balance is an indicator of how it will affect growth and quality of life in the project area. Because the jobs-housing ratio for the city is jobs-rich (3.47 jobs per dwelling unit; see Table 5.8-6), the decrease in the jobs-housing ratio from the additional 189 residential units and employment onsite would be a slightly favorable result from a planning perspective because the project would provide more housing in a city with high employment.

Summary

Overall, the project would not induce substantial population growth in the area, but would serve growth that is already projected. Although the proposed project would increase the number of housing units, population, and employment in the city by 189 units, 405 residents, and 49 employees, the projected increases are less than the regionally anticipated growth and would help alleviate the state's housing shortage by providing high-density housing near Brea's employment centers.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.8-2: Project implementation would not displace people or housing. [Threshold P-2]

The project site is currently developed with the Brea Plaza Shopping Center and parking lot. The proposed project would result in a mixed-use development on 2.2 acres of the 16-acre Brea Plaza Shopping Center. According to RHNA for the 2014–2021 housing element cycle, the city's share of regional housing needs was 1,851 new units between 2014 and 2021. The proposed project would increase the number of housing units in the city by 189 units, thereby increasing the city's housing supply. Therefore, the proposed project would not displace people or housing, but would increase the number of housing units in the city.

Level of Significance Before Mitigation: Less Than Significant.

5.8.5 Cumulative Impacts

The area considered for cumulative impacts is the city of Brea. Impacts are analyzed using the general plan projections in SCAG's 2020 RTP/SCS growth forecast. Development of the proposed project in conjunction with the related cumulative project list in Table 4-1, *Related Cumulative Projects Within Two Miles*, in Chapter 4 of this DEIR, would not result in cumulative citywide population, housing, or employment impacts because new residential projects would further improve the jobs-housing balance in the city. Additionally, related projects would be reviewed by the City, and development would be required to be consistent with adopted state and City development standards, regulations, plans, and policies to minimize the effect on the environment of the increase in population. Upon approval, the proposed project would increase the city's housing supply. Therefore, the proposed project combined with related projects would not result in cumulatively considerable impacts to population and housing.

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5.8.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.8.7 Mitigation Measures

No mitigation measures are required.

5.8.8 Level of Significance After Mitigation

Impacts would be less than significant.

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5.9 PUBLIC SERVICES

This section of the Draft Environmental Impact Report (DEIR) addresses the potential for the Brea Plaza Expansion project (proposed project) to impact public services and facilities, including fire protection and emergency services, police protection, school services, and library services. Park facilities are addressed in Chapter 5.10, *Recreation*. Public and private utilities and service systems, including water, wastewater, and solid waste services and systems, are addressed in Chapter 5.13, *Utilities and Service Systems*. The information in this section is based on responses to service provider letters that can be found in Appendix F of this DEIR.

5.9.1 Fire Protection and Emergency Services

5.9.1.1 ENVIRONMENTAL SETTING

Regulatory Background

International Fire Code

The International Fire Code (IFC) is a model code for regulating minimum fire-safety requirements for new and existing buildings, facilities, storage, and processes. The IFC includes general and specialized technical fire- and life-safety regulations and addresses fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, use and storage of hazardous materials, protection of emergency responders, industrial processes, and various other topics. The IFC is issued by the International Code Council, which is an international organization of building officials.

State

California Fire Code

The California Fire Code (CFC; California Code of Regulations, Title 24, Part 9) is based on the 2015 IFC and includes amendments from the State of California fully integrated into the code. The CFC contains fire safety-related building standards that are referenced in other parts of Title 24 of the California Code of Regulations. The CFC is updated once every three years; the 2019 CFC took effect on January 1, 2020.

California Health and Safety Code

Sections 13000 et seq. of the California Health and Safety Code include fire regulations for building standards (also in the California Building Code), 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

City of Brea Municipal Code

Section 16.01.010, Fire Code Adopted, of Brea's fire code (City of Brea Municipal Code Chapter 16.04) states that the 2019 edition of the California Fire Code in its entirety, together with the amendments, additions, deletions, and exceptions in Chapter 16.04, are the adopted fire code of the City.

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City of Brea General Plan

The City of Brea General Plan contains policies that support the City's fire and police services.

- **Policy PS-1.2.** Provide up-to-date technology to the Brea Police and Fire Department.
- **Policy PS-1.4.** Work with the Fire Department to determine and meet community needs for fire protection and related emergency services. Ensure that sufficient stations, personnel, equipment are provided to meet growth needs in the City.
- **Policy PS-1.5.** Maintain a maximum 4- to 6-minute emergency response time for fire safety services. Maintain a 3- to 5-minute response time from emergency police response services. Require that all new development be able to meet established standards for such response.
- **Policy PS-1.6.** Impose special conditions as needed on development projects to ensure that adequate fire protection measures are in place and maintained.

Development Impact Fees

Dispatch Impact Fees

The City of Brea established these fees as necessary for providing upgrades to the police and fire dispatch systems, thus ensuring that new development is provided with appropriate public safety services (Brea 2021a).

- Multifamily: \$40/dwelling unit
- Single Family: \$55/dwelling unit
- Commercial: \$55/1,000 square foot
- Office: \$77/1,000 square foot
- Industrial: \$40/1,000 square foot

Fire Impact Fees

The purpose of the fire impact fee is to ensure that new development finance its fair share of fire protection facilities.

- Multifamily: \$731/dwelling unit
- Single-Family: \$1,029/dwelling unit
- Commercial: \$191/1,000 square foot
- Office: \$267/1,000 square foot
- Industrial: \$138/1,000 square foot

Fire Service Fees

Fire Service Connection charges are applicable to all new construction where fire service is to be installed. Fire service connection fees are buy-ins used to recover the cost of existing reservoir storage and water system capacity for private fire systems; the connection fees for fire service connection are as follows:

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- 4-inch connection: \$3,982
- 6-inch connection: \$5,575
- 8-inch connection: \$7,248
- 10-inch connection: \$10,437
- 12-inch connection: \$10,437

Existing Conditions

Fire Stations, Equipment, Staffing, and Mutual Aid

The Brea Fire Department serves the City of Brea and is the primary fire department providing service to the project site. The Los Angeles County Fire Department and Fullerton Fire Department provide mutual aid. Table 5.9-1, *Fire Stations and Equipment Serving the Project Site*, provides a list of fire stations that respond to service requests in the project vicinity. In the event of an emergency, the Orange County Fire Authority also provides mutual aid in the city.

Table 5.9-1 Fire Stations and Equipment Serving the Project Site

Station	Address	Equipment
City of Brea Fire Department		
Brea Fire Department – Station #1	555 North Berry Street, Brea	Type 1 – Advanced Life Support, 3 personnel
Brea Fire Department – Station #2	200 North Brea Boulevard, Brea	Pierce/tiller – Advanced Life Support, 4 personnel
Fullerton Fire Department		
Fullerton Fire Department – Station #4	3251 North Harbor Boulevard, Fullerton	Type 1 – Advanced Life Support, 4 personnel
Los Angeles County Fire Department		
LACFD – Station 191	850 West La Habra Boulevard, La Habra	2 paramedics
LACFD – Station 192	520 South Harbor Boulevard, La Habra	Type 1 – Advanced Life Support, 3 personnel
LACFD – Station 193	1000 West Risner Way, La Habra	Type 1 – Advanced Life Support, 3 personnel
Source: Nigg and Salgado 2021 (see Appendix F).		

Response Times

As indicated in Policy PS-1.5 of the City of Brea General Plan, the Brea Fire Department should maintain a maximum 4- to 6-minute emergency response time for fire safety services (Brea 2003a). On average, the dispatch-to-on-scene time for a Brea Fire unit to arrive is 7 minutes and 30 seconds (Nigg and Salgado 2021).

Wildfire Hazard Zones

The northern, northeastern, and eastern portions of the city are in fire hazard severity zones mapped by the California Department of Forestry and Fire Prevention (CAL FIRE 2001). However, the project site itself is not in or near a wildfire hazard zone (see also Section 8.7, *Wildfire*).

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5.9.1.2 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:

- FP-1 Result in a substantial adverse physical impact 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 fire protection services.

5.9.1.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for fire protection services, are identified below.

- PPP PS-1 New buildings are required to meet the fire regulations outlined in California Health and Safety Code (Sections 13000 et seq.).
- PPP PS-2 The project applicant is required to pay development impact fees (dispatch impact fees, fire impact fees, fire service fees).
- PPP PS-3 As part of the project review process, the City of Brea Fire Department will require approval of building plan check for site plan and emergency access as well as approval of fire master plan. Additional design features to address the City of Brea Fire Department's requirements will be incorporated as conditions of approval for the project.
- PPP PS-4 The project will be designed, built, and operated in accordance with the City of Brea's Municipal Code Chapter 15.08, Building Code, and Chapter 16.04, Brea Fire Code.
- PPP PS-5 As part of the project review process, the City of Brea Fire Department may require project design features for fire safety. Additional design features to address the City of Brea Fire Department's service standards will be incorporated as conditions of approval for the project, such as funding for a new ladder truck to responsibly maintain its response requirements, provide adequate protection for this project and its intended residents, and aid in the overall execution of the Brea Fire Department's mission.

5.9.1.4 ENVIRONMENTAL IMPACTS

Impact 5.9-1: The proposed project would introduce new structures, 405 residents, and 49 employees into the City of Brea Fire Department service boundaries, thereby increasing the requirement for fire protection facilities and personnel. [Threshold FP-1]

The proposed project would develop 189 residential units (including co-living units) and 21,355 square feet of co-working office space, which would increase the demand for fire and emergency services. The Brea Fire

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Department is the primary fire department providing service to the Brea Plaza Shopping Center. Brea Fire Department #1 is approximately 1.70 miles northwest of the project site, and Brea Fire Department #2 is approximately 1.05 miles northwest of the project site. The average dispatch-to-on-scene time for a Brea Fire unit is 7 minutes and 30 seconds (Nigg and Salgado 2021; see Appendix F). However, the proposed project includes a five-story, 89-foot structure, which warrants use of the Brea Fire Department's ladder truck, which is equipped to respond to these types of multistory structures but results in an extended response time. The Brea Fire Department operates a 2007 ladder truck and a 1999 ladder truck to serve as a reserve (Nigg and Salgado 2021). The dispatch-to-on-scene time for the ladder truck company is 7 minutes and 52 seconds (Nigg and Salgado 2021).

The Orange County Fire Annex operational response standards require two ladder trucks to be on every working structure fire. California mutual and automatic aid agreements operate under a working theory that each participating agency is able to provide like-for-like service to each other. Brea Fire Department must be able to provide at least one of its own ladder trucks for incidents in its jurisdiction and seek assistance from neighboring jurisdictions for the second ladder truck (Nigg and Salgado 2021). Implementation of PPP PS-5 would incorporate conditions of approval, such as funding for a new ladder, which would provide adequate protection for the proposed project.

The proposed project would likely increase the number of service calls and demand for fire services. Additionally, the proposed project would warrant additional safety procedures that are unique to multistory buildings, such as rescues of trapped victims, roof operations, and multilevel ventilation tactics (Nigg and Salgado 2021). However, the project would comply with the California Fire and Building Codes, City ordinances, and applicable national standards. The following fire protection systems would be required for the proposed project: automatic fire sprinkler systems through the parking structures and buildings, automatic fire alarm system, fire pump, an automatic secondary on-site water supply, and an emergency responder radio coverage system. Additionally, fire apparatus access roads would need to be provided to ensure adequate accessibility to the proposed structure. The proposed project would include a fire lane on the northern and western perimeter of the site.

Fire vehicles, equipment, and expansion of existing facilities are funded partially through Development Impact Fees from new development. However, the majority of the funds for facilities, equipment, and service personnel come from the City's General Fund. Funding from property taxes would be expected to grow roughly proportional to the increase in residential units and nonresidential square footage associated with the project. Additionally, the project applicant would pay the appropriate fire impact fees, fire service fees, and dispatch fees prior to the issuance of any building permits, which would be used to finance future fire protection facilities, fire service connection, and upgrades to the police and fire dispatch systems. More specific consideration of these services and any desired augmentation to achieve best performance goals may be considered as part of the project review process and any conditions of approval for the project (including PPP PS-5).

Based on the preceding, the proposed project would not adversely affect the Brea Fire Department's ability to provide adequate service and would not require new or expanded fire facilities that could result in adverse environmental impacts. Therefore, impacts would be less than significant.

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Level of Significance Before Mitigation: Less Than Significant

5.9.1.5 CUMULATIVE IMPACTS

Growth within the City would increase demands for fire protection and emergency services. Other projects would also pay property, sales, and utility taxes and fees supporting the City's General Fund, part of which would be available for the Brea Fire Department's operations and construction of new and/or expanded fire stations. Other projects that are found by the City to require increases in public safety equipment, facilities, and staffing would also be required to pay fair-share payments to the City for increased resources. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by other projects, and impacts of the proposed project would not be cumulatively considerable.

5.9.1.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.9-1 would be less than significant.

5.9.1.7 MITIGATION MEASURES

No mitigation measures are required.

5.9.1.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.9.2 Police Protection

5.9.2.1 ENVIRONMENTAL SETTING

Regulatory Background

Local

City of Brea General Plan

The City of Brea General Plan provides policies that support the City's fire and police services.

- **Policy PS-1.1.** Work with the Police Department to determine and meet community needs for law enforcement.
- **Policy PS-1.2.** Provide up-to-date technology to the Brea Police and Fire Department.
- **Policy PS-1.3.** Continue to maintain and develop a community-based police strategy compatible with the needs and size of the community.

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- **Policy PS-1.5.** Maintain a maximum 4- to 6-minute emergency response time for fire safety services. Maintain a 3- to 5-minute response time for emergency police response services. Require that all new development be able to meet established standards for such response.
- **Policy PS-1.7.** Incorporate the tenets of Community Oriented Policing into the design of crime prevention and enforcement programs.
- **Policy PS-1.8.** Use technology to improve crime prevention efforts.

Dispatch Impact Fees

The City of Brea established these fees as necessary for providing upgrades to the police and fire dispatch systems, ensuring that new development is provided with appropriate public safety services (Brea 2021a).

- Multifamily: \$40/dwelling unit
- Single Family: \$55/dwelling unit
- Commercial: \$55/1,000 square foot
- Office: \$77/1,000 square foot
- Industrial: \$40/1,000 square foot

Existing Conditions

Law enforcement and police protection services are provided by the Brea Police Department at 1 Civic Center Circle in the City of Brea. The Brea Police Department is divided into the Uniform Division and Investigative Division, directed by two captains (Brea 2021b). The Brea Police Department also includes a Crime Suppression Unit, K-9 Unit, Professional Standards Unit, SWAT Unit, Threat Management Unit, and Traffic Unit (Brea 2021b). There are over 40 uniformed officers whose duties include:

- Respond to emergency, in-progress crimes.
- Conduct on-scene investigations, including fingerprinting, photography, interviewing, and interrogation.
- Write crime reports documenting incidents.
- Arrest and book criminal offenders.
- Stop traffic violators and warn or cite the driver.
- Patrol their assigned area, checking residential and business areas for illegal activity. (Brea 2021c)

There are approximately 100 full-time positions in the various programs of the Brea Police Department (Brea 2020). The Brea Police Department Communications Center includes a communications supervisor, four senior dispatchers, six full-time dispatchers, and nine part-time dispatchers that are called to assist when needed (Brea 2021d).

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Response Times

As indicated in Policy PS-1.5 of the City of Brea General Plan, the Brea Police Department seeks to maintain a maximum of 3- to 5-minute emergency response time for police services. Calls for service are prioritized into several categories, with emergency calls being the most important. As of March 2021, the average emergency response time was 3 minutes and 58 seconds (Brea 2021d).

5.9.2.2 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:

- PP-1 Result in a substantial adverse physical impact 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 police protection services.

5.9.2.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for police protection services are identified below.

- PPP PS-6 The project applicant is required to pay dispatch impact fees.
- PPP PS-7 As part of the project review process, the City of Brea Police Department may require project design features to improve security. Additional design features to address the City of Brea Police Department's service standards will be incorporated as conditions of approval for the project, such as:
- ALPR (license plate reader system),
 - Fiber optic cable to connect to existing fiber network,
 - Funding for fixed mounted cameras for a citywide camera system which is currently under development.

5.9.2.4 ENVIRONMENTAL IMPACTS

Impact 5.9-2: The proposed project would introduce new structures, 405 residents, and 49 employees into the City of Brea Police Department service boundaries, thereby increasing the requirement for police protection facilities and personnel. [Threshold PP-1]

Law enforcement and police protection services would be provided by the Brea Police Department at 1 Civic Center Circle in Brea, approximately 0.5 mile northwest of the project site. Calls for service are prioritized

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into several categories, with emergency calls being the most important; as of July 2020, the average emergency response time was 3 minutes and 19 seconds (Brea 2020e).

In 2019, there were 304 calls for service to the Brea Shopping Plaza site; top categories included traffic, alarm, theft, suspicious subjects/circumstances, disturbances/other, and patrol checks (Dickinson 2021; see Appendix F). With the implementation of the proposed project, there would be an increase in calls for service that would include disturbances, suspicious activity, theft, and alarm calls (Dickinson 2021).

The proposed project would result in an increase in population, which would result in an increased workload for the police department, which would necessitate additional staffing to maintain the current level of service within the community (Dickinson 2021).

Funds for additional police facilities, equipment, and officers would come from the Development Impact Fees collected from new development. However, the majority of the funds for police facilities, equipment, and officers come from the City's General Fund. Funding from property taxes would be expected to grow roughly proportional to the increase in residential units and nonresidential square footage associated with the project. Moreover, the project applicant would be required to pay dispatch fees prior to the issuance of any building permits, and those fees would be used to provide future upgrades to police and fire dispatch systems. More-specific consideration of these services and any desired augmentation to achieve best performance goals set by the police department, such as project design features to improve security on-site, may be considered part of the project review process and any conditions of approval for the project (including PPP PS-7).

Based on the preceding, the proposed project would not adversely affect the Brea Police Department's ability to provide adequate service and would not require new or expanded police facilities that could result in adverse environmental impacts.

Level of Significance Before Mitigation: Less Than Significant.

5.9.2.5 CUMULATIVE IMPACTS

Growth within the City would increase demands for police protection and services. Other projects would also pay property, sales, and utility taxes and fees supporting the City's General Fund, part of which would be available for the Brea Police Department's operations and construction of new and/or expanded police stations. Other projects that are found by the City to require increases in public safety equipment, facilities, and staffing would also be required to make fair-share payments to the City for increased resources. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by other projects, and impacts of the proposed project would not be cumulatively considerable.

5.9.2.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.9-2 would be less than significant.

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5.9.2.7 MITIGATION MEASURES

No mitigation measures are required.

5.9.2.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.9.3 School Services

5.9.3.1 ENVIRONMENTAL SETTING

Regulatory Background

State

California State Assembly Bill 2926: School Facilities Act of 1986

To assist in providing school facilities to serve students generated by new development, Assembly Bill (AB) 2926 was enacted in 1986 and authorizes a levy of impact fees on new residential and commercial/industrial development. The bill was expanded and revised in 1987 through the passage of AB 1600, which added Sections 66000 et seq. to the Government Code. Under this statute, payment of impact fees by developers serves as CEQA mitigation to satisfy the impact of development on school facilities.

California Senate Bill 50

Senate Bill (SB) 50, passed in 1998, provides a comprehensive school facilities financing and reform program and enables a statewide bond issue to be placed on the ballot. Under the provisions of SB 50, school districts are authorized to collect fees to offset the costs associated with increasing school capacity as a result of development and related population increases. The funding goes to acquiring school sites, constructing new school facilities, and modernizing existing school facilities. SB 50 establishes a process for determining the amount of fees developers would be charged to mitigate the impact of development on school districts from increased enrollment. According to Section 65996 of the California Government Code, development fees authorized by SB 50 are deemed “full and complete school facilities mitigation.”

Under the legislation, there are three levels of developer fees that may be imposed upon new development by the governing school district. Level I fees are assessed based upon the proposed square footage of residential, commercial/industrial, and/or parking structure uses. Level II fees require the developer to provide one-half of the costs of accommodating students in new schools, and the state provides the remaining half. To qualify for Level II fees, the governing board of the school district must adopt a School Facilities Needs Analysis and meet other prerequisites in accordance with Section 65995.6 of the California Government Code. Level III fees apply if the state runs out of bond funds, allowing the governing school district to impose 100 percent of the cost of school facility or mitigation minus any local dedicated school monies on the developer.

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Local

Development Impact Fees

The Brea Olinda Unified School District (BOUSD) has adopted a fee program pursuant to SB 50 that is modified every 24 months, that levies statutory school impact fees per residential building square footage:

- Residential:
 - Single-Family Detached: \$6.82/square foot
 - Multifamily Detached: \$7.29/square foot
- Commercial: \$0.66/square foot. (Champion 2020)

Existing Conditions

Enrollment and Capacity

The BOUSD consists of six elementary schools, one junior high school, one high school, and one continuation high school, and serves approximately 6,000 students (BOUSD 2021). Table 5.9-2, *School Enrollment and Capacity*, provides the enrollment and capacity per school that would serve the proposed project.

Table 5.9-2 School Enrollment and Capacity

School and Location	10-Year Average Enrollment	Total Capacity ¹
Brea Country Hills Elementary 150 North Associated Road	601	625
Brea Junior High School 400 North Brea Boulevard	918	918
Brea Olinda High School 789 Wildcat Way	1,871	2,295

Source: Champion 2020.

¹ These figures do not account for the reconstruction needs that have been identified in the School District's 2018 Facilities Master Plan.

5.9.3.2 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:

- SS-1 Result in a substantial adverse physical impact 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 school services.

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5.9.3.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for school facilities are identified below:

- PPP PS-8 Pursuant to AB 2926, new development is required to pay development impact fees to assist in providing school facilities to serve students generated by new development.
- PPP PS-9 Pursuant to SB 50, new development is required to offset the costs associated with increasing school capacity, where the funds collected go to acquiring school sites, constructing new school facilities, and modernizing existing school facilities.

5.9.3.4 ENVIRONMENTAL IMPACTS

Impact 5.9-3: The proposed project would generate 57 students who would impact the school enrollment capacities of the Brea Olinda Unified School District. [Threshold SS-1]

The proposed project would include the construction of 189 residential units and 21,355 square feet of co-working office space. The proposed project would result in an increase of approximately 405 residents and 49 employees in the City of Brea (see Section 5.8, *Population and Housing*).

The existing capacities of the Brea Country Hill Elementary School, Brea Junior High School, and Brea Olinda High School do not take into account the reconstruction needs that have been identified in the School District's 2018 Facilities Master Plan (Champion 2020). Each of the schools has significant needs for reconstruction to ensure the facilities are available to accommodate student enrollment from the proposed project and other future development (Champion 2020).

The student generation rate for BOUSD is 0.2525 student per multifamily dwelling unit for students in grades kindergarten through 12 (Cooperative Strategies 2020). Therefore, the proposed project would generate approximately 57 students if the co-living unit bedrooms are considered individual units.¹ Students generated by the proposed project would leave a remaining capacity of 11 and 545 students at Brea Country Hills Elementary School and Brea Olinda High School, respectively; Brea Junior High School would be over capacity by 66 students (see Table 5.9-3, *Estimated Project Student Generation*). Therefore, the three affected schools would have a total available capacity of 490 seats after project implementation. The proposed project would result in the need to accommodate 66 students at Brea Junior High School; however, it should be noted that the school currently operates above capacity.

¹ 229 units x 0.2525 students = 57.8225 students = 57 students / 3 schools = 19 students per school.

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School	Enrollment 2019-20 ¹	Capacity	Available Capacity	Estimated Project Student Generation	Available Capacity with Project Student Generation Incorporated
Brea Country Hills Elementary School	595	625	30	19	11
Brea Junior High School	965	918	-47	19	-66
Brea Olinda High School	1,731	2,295	564	19	545
Total	3,291	3,838	547	57	490

¹ Source: CDE 2020.

Existing school facilities may not be adequate to serve additional students generated by the proposed project. The increased demands for additional school facilities would be accommodated through the payment of development fees. BOUSD has adopted a fee program; the current school fees are \$7.29 per square foot for multifamily detached homes, and \$0.66 per square foot for commercial development. Pursuant to California Government Code Section 65995(h), payment of the impact fees fully mitigates impacts to school facilities. Although the increased demand for school facilities at Brea Junior High School would result in a potential impact, payment of impact fees in compliance with SB 50 would reduce the impacts to an acceptable level.

Level of Significance Before Mitigation: Less Than Significant.

5.9.3.5 CUMULATIVE IMPACTS

Growth within the city would increase demands for school services. Other projects would also pay property, sales, and utility taxes and fees supporting the City's General fund, part of which would be available for BOUSD's operations and construction of new and/or expanded school facilities. Other projects that are found by the City to require increases in public safety equipment, facilities, and staffing would also be required to pay fair-share payments to the City for increased resources. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by other projects, and impacts of the proposed project would not be cumulatively considerable.

5.9.3.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.9-3 would be less than significant.

5.9.3.7 MITIGATION MEASURES

No mitigation measures are required.

5.9.3.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

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5.9.4 Parks

A discussion of park facilities is detailed in Section 5.10, *Recreation*, of this DEIR.

5.9.5 Library Services

5.9.5.1 ENVIRONMENTAL SETTING

Regulatory Background

Local

City of Brea General Plan

The General Plan contains the following goal and policies for providing library resources to the City:

Goal CS-4: Provide library resources that meet the educational, cultural, civic, business, and life-long learning needs of all residents. Retain a local library system that is community-oriented, provides knowledgeable, service-oriented staff, and offers access to information, books, and other materials in a variety of formats that use contemporary technology:

- **Policy CS-4.1.** Encourage the County to develop programs and services for adults, children, and new readers that meet future needs.
- **Policy CS-4.2.** Work with library staff to assess, select, organize, and maintain collections of materials and information sources of value to and desired by the community.
- **Policy CS-4.3.** Work with library staff to maintain technological services that meet the needs of residents, as well as reader advisory, reference and referral services, responsive to user needs.
- **Policy CS-4.4.** Explore funding opportunities for the City to expand the existing County branch library and/or operate a local, independent library.

Existing Conditions

The Brea Branch Library is part of the Orange County Public Library (OCPL) community library network, which includes 28 branches throughout Orange County. The Brea Branch Library is at 1 Civic Center Circle in Brea. According to the General Plan EIR, all new development is required to pay Orange County Library impact fees prior to the issuance of building permits to offset the costs of providing additional library resources for residents and employees of local businesses (Brea 2003b).

5.9.5.2 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:

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- LS-1 Result in a substantial adverse physical impact 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 library services.

5.9.5.3 PLANS, PROGRAMS, AND POLICIES

There are no existing plans, programs, and policies applicable to the proposed project.

5.9.5.4 ENVIRONMENTAL IMPACTS

Impact 5.9-4: The proposed project would introduce 405 residents to the project site, which would increase the service needs for the Brea Branch Library. [Threshold LS-1]

The only library in the City of Brea, Brea Branch Library, is approximately 0.5 mile northwest of the project site. According to the City of Brea General Plan EIR, 0.2 square foot of library space is needed per capita; therefore, the proposed project would require an additional 81 square feet² of library space (Brea 2003b). The required square footage would not warrant the construction of a new library or the expansion of the Brea Branch Library. Additionally, OCPL's service standard is 1.5 book volumes per capita for residential communities; therefore, the increase in population would require an additional 608 book volumes.³ The OCPL also provides a wide range of electronic and digitized resources that do not require physical library space. Funding would be required to provide the additional books to meet the service standard. Generally, impact fees are assessed on new development to help pay for public infrastructure required to accommodate the new development. Funding for library services comes primarily from the property tax revenue as well as library fines and fees collected from patrons, and state, federal, or government aid. As development occurs, property tax revenue should grow proportionally with the property tax collections. Additionally, access to online resources, including eBooks and audiobooks, are available on the OCPL system. Therefore, the proposed project would not have a substantial impact associated with the provision of new or physically altered governmental facilities; impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant.

5.9.5.5 CUMULATIVE IMPACTS

Growth within the city would increase demands for library services. Other projects would also pay property, sales, and utility taxes and fees supporting OCPL, part of which would be available for the operations and development of new and/or expanded facilities. Other projects that are found by the City to require increases to library services would also be required to make fair-share payments to the City for increased resources. Cumulative impacts would be less than significant after payment of taxes, impact fees, and fair-share payments by other projects. Impacts of the proposed project would not be cumulatively considerable.

² 0.2 square foot x 405 residents = 81 square feet of library space.

³ 1.5 book volumes x 405 residents = 607.5 = 608 book volumes.

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5.9.5.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.9-4 would be less than significant.

5.9.5.7 MITIGATION MEASURES

No mitigation measures are required.

5.9.5.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.9.6 References

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5.10 RECREATION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Brea Plaza Expansion Project (proposed project) to impact public parks and recreational facilities in the City of Brea. Cumulative impacts related to recreation would be within the city boundaries.

5.10.1 Environmental Setting

5.10.1.1 REGULATORY BACKGROUND

State

California Government Code

The Government Code (Sections 65560–65568) requires a general plan to include an open space element to address the preservation of natural resources, managed production of resources, outdoor recreation, public health and safety, support of military installations, and protection of places of cultural or historical interest. Building permits, subdivision approvals, and zoning approvals must be consistent with the open space plan. The Public Resources Code (Section 5076) also requires general plans to consider demands for trail-oriented recreational use, demands in developing open-space programs, and the feasibility of integrating its trail routes with appropriate segments of the state system. Cities may also create a separate parks and recreation element as part of or in addition to an open space and conservation element.

California Public Park Preservation Act

The primary instrument for protecting and preserving parkland is California's Public Parkland Preservation Act of 1971. Under the Public Resources Code, cities and counties may not acquire any real property that is in use as a public park for any nonpark use unless compensation, land, or both are provided to replace the parkland acquired. This provides no net loss of parkland facilities.

Quimby Act

The Quimby Act (California Government Code Section 66477) authorizes cities and counties to require developers to dedicate land as parkland, pay in-lieu fees, or both as a condition of approval for a tentative or final tract map or parcel map for a residential subdivision. Revenue generated through the Quimby Act cannot be used for the operations or maintenance of existing park facilities. The Quimby Act also sets a statewide standard of three acres of parkland for every 1,000 residents unless the existing neighborhood and community park area exceeds that limit, in which case the city or county may establish a higher standard.

Mitigation Fee Act

The California Mitigation Fee Act (Government Code Sections 66000 et seq.) allows cities to impose fees on development projects to mitigate the project's impact on a city's ability to provide specified public facilities. In order to comply with the Mitigation Fee Act, a city must follow four primary requirements: 1) Make certain determinations regarding the purpose and use of a fee and establish a nexus or connection between a

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development project or class of project and the public improvement being financed with the fee; 2) Segregate fee revenue from the general fund in order to avoid commingling of capital facilities fees and general funds; 3) Make findings each fiscal year describing the continuing need for fees that have been in the possession of the city for five years or more and that have not been spent or committed to a project; and 4) Refund any fees with interest for developer deposits for which the findings noted above cannot be made.

Local

City of Brea Municipal Code

According to Chapter 2.24, Parks, Recreation, and Human Services Commission, Section 2.24.002, the commission shall:

- Coordinate all of the recreation, leisure time, and cultural activities of the City.
- Provide for the establishment and maintenance of sound recreation and parks programs.
- Ensure the efficient operation of all recreation and parks facilities within the City.
- Encourage a sound and well-rounded program of activities to service the recreational, park, cultural, leisure time, and other needs of people within the City.

City of Brea General Plan

The goals and policies of the City of Brea General Plan include providing a variety of parks and recreation facilities that meet the diverse needs of the community, protecting and preserving existing parks and recreation facilities, and maximizing use of open space areas capable of supporting park-type activities.

Park Development Fees

Park development fees are charged for new development to fund park development and improvements; charges are determined based on the number and type of residential units being constructed (Brea 2021).

- Single Family and Two-Family (duplex): \$9,818/dwelling unit
- Multifamily: \$5,611/dwelling unit
- Mobile Home: \$5,769/dwelling unit

5.10.1.2 EXISTING CONDITIONS

Facilities

The city has 16 park and recreation facilities, including mini or pocket parks, neighborhood parks, school parks, community parks, regional parks, Chino Hills State Park, and Birch Golf Course (Brea 2003). Chino Hills State Park encompasses 3,400 acres (Brea 2003). The City also provides recreational programs for:

- Tots and preschoolers
- Teens

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- Adult sports and fitness
- Adult special interest
- Special events (Brea 2003).

Facility Funding

Developer agreements and impact fees fund the acquisition of parklands and improvements to parks and recreational facilities. These fees are sufficient to develop new park and recreational facilities. In the City of Brea, park development fees are charged for new development to fund park development and improvements.

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:

- R-1 Would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- R-2 Includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

5.10.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for recreational facilities are identified below.

- PPP REC-1 The proposed project is required to comply with Brea Municipal Code Section 18.64.080 that establishes the subdivision regulations for the provision of park and recreational facilities through land dedication, installation of improvements, payment of in-lieu fee thereof, or a combination. New development is required to fund park and recreational development and improvements through the payment of park development fees.

5.10.4 Environmental Impacts

Impact 5.10-1: The proposed project would generate 405 residents who could increase the use of existing park and recreational facilities. [Threshold R-1]

The 189 units (including co-living units) proposed for the project would generate 405 residents (see Section 5.8, *Population and Housing*). The increase in residents would increase use of existing park and recreational facilities near the project site.

According to the City of Brea General Plan, the City has a goal of 5 acres per 1,000 population for public park and recreational facilities (Brea 2003). According to Table CD-1 in the City of Brea General Plan, 14 percent (980 acres) of the City's 7,000 acres is designated parks and open space (Brea 2003). The proposed

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project would create a demand for 2.025 acres of parkland.¹ With the implementation of the proposed project, the City would continue to exceed its parkland standard by 749.83 acres² of park space.

Though the City has adequate parkland under the current standard, distribution of parks and/or amenities may be needed to serve the local area. Park, recreation, and human service needs should consider amenities, community needs, and demographics.

The proposed project would include approximately 22,076 square feet of amenity deck and terraces for the residential and office uses. The nearest park to the Brea Plaza Shopping Center site is Greenbriar Park approximately 570 feet northeast of the site, and is within walking distance for the proposed project's residents. The Craig Regional Park is also proximate to the project site. Given the proximity of Greenbriar Park and the Craig Regional Park to the site, residents of the proposed project would likely utilize these parks in addition to the on-site amenities.

Operation of parks is funded partially through Development Impact Fees from new development. However, the majority of the funds for facilities, equipment, and parks groundkeepers come from the City's General Fund. Funding from property taxes would be expected to grow roughly proportional to the increase in residential units and nonresidential square footage associated with the project. Additionally, the project applicant would pay the appropriate park development fees prior to the issuance of any building permits, which would be used to finance improvements to park facilities (PPP REC-1).

The recreational facilities on-site would reduce off-site recreational needs and associated potential impacts to Greenbriar Park and Craig Regional Park. With payment of fair-share fees and on-site recreational amenities provided for the residential uses (see PPP REC-1), impacts to parks and open spaces would be less than significant.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.10-2: Project implementation would not result in environmental impacts due to the provision of new and/or expanded recreational facilities. [Threshold R-2]

As stated in Impact 5.10-1, the proposed project would result in the development of 22,076 square feet of recreational facilities on-site. Although the proposed project would provide new recreational facilities, the construction of these facilities would be less than significant, as substantiated in Section 5.2, *Air Quality*, and Section 5.7, *Noise*, which describe the air quality and noise construction impacts as a result of the proposed project. The proposed project would not require new and/or expanded facilities other than those already

¹ 5 acres/1,000 persons = 0.005 acre/person
0.005 acres/person x 405 residents = 2.025 acres

² DOF 2020 Population = 45,629
5 acres/1,000 persons = 0.005 acre/person
0.005 acre/person x 45,629 (population DOF 2020) = 228.145 acres (needed)
980 acres of park space (14% of 7,000 acres) – 228.145 acres = 751.855 (excess)
405 persons (proposed project population) x 0.005 acres/person = 2.025 acres
751.855 acres (excess) – 2.025 acres = 749.83 acres

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included as part of the proposed project; in addition, the proposed project would be conditioned to pay park development fees (see PPP REC-1). Therefore, a less than significant impact would occur.

Level of Significance Before Mitigation: Less Than Significant.

5.10.5 Cumulative Impacts

Growth in the city would increase demands for parks and recreational facilities. Other projects would also pay property, sales, and utility taxes and fees supporting the City's General Fund, part of which would be available for the operations and development of new parks and recreational facilities. Other projects that are found by the City to require increases in parklands would also be required to pay park development fees and/or provide recreation onsite. The City currently exceeds its parkland standard by 751.86 acres³ of parks and open space, and it offers recreational programs for its residents. Cumulative impacts would be less than significant after payment of taxes, impact fees, and development impact fees by other projects. Impacts of the proposed project would not be cumulatively considerable.

5.10.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.10-1 and 5.10-2.

5.10.7 Mitigation Measures

No mitigation measures are required.

5.10.8 Level of Significance After Mitigation

Impacts would be less than significant.

5.10.9 References

Brea, City of. 2003. City of Brea General Plan.

<http://www.ci.brea.ca.us/DocumentCenter/View/61/General-Plan>.

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³ DOF 2020 Population = 45,629
5 acres/1,000 persons = 0.005 acre/person
0.005 acre/person x 45,629 (population DOF 2020) = 228.145 acres (needed)
980 acres of park space (14% of 7,000 acres) – 228.145 acres = 751.855 (excess)

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5.11 TRANSPORTATION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Brea Plaza Expansion Project to result in transportation and traffic impacts in the City of Brea. The analysis in this section is based in part on the following technical report(s):

- *VTM Assessment*, Linscott, Law and Greenspan (LLG) Engineers, June 17, 2021
- *Traffic Circulation Analysis*, LLG Engineers, July 29, 2021

Complete copies of these studies are included as Appendix J1 and Appendix J2, respectively, of this DEIR.

Terminology

The following are definitions for terms used throughout this section:

- **Congestion Management Plan (CMP).** A federally mandated program within metropolitan planning areas to address and manage congestion through the implementation of strategies not calling for major capital investments.
- **Highway Capacity Manual.** The manual provides methods for quantifying highway capacity, serving as a fundamental reference on concepts, performance measures, and analysis techniques for evaluating the multimodal operation of streets, highways, freeways, and off-street pathways. The methodology used to assess the operation of intersections is based on the Highway Capacity Manual.
- **Levels of Service.** Roadway capacity is generally limited by the ability to move vehicles through intersections. A level of service is a standard performance measurement to describe the operating characteristics of a street system in terms of the level of congestion or delay experienced by motorists. Service levels range from A through F, which relate to traffic conditions from best (uncongested, free-flowing conditions) to worst (total breakdown with stop-and-go operation).
- **Transportation Uniform Mitigation Fee.** A program that ensures a fair share payment for increased traffic generated by new development projects in Western Riverside County.
- **Vehicles Miles Traveled (VMT).** The number of vehicle miles of travel is an indicator of the travel levels on the roadway system by motor vehicles. This estimate is based upon traffic volume counts and roadway length.
- **VMT per Service Population (VMT/SP).** Service population includes people who live (residents) or work (employees) in the study area. VMT/SP measures the transportation “efficiency” of a project or plan.

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5.11.1 Environmental Setting

5.11.1.1 REGULATORY BACKGROUND

State Regulations

Senate Bill 743

On September 27, 2013, SB 743 was signed into law, starting a process that fundamentally changed transportation impact analysis as part of CEQA compliance. The legislature found that with the adoption of the 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 greenhouse gas emissions, as required by the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32).

SB 743 eliminates auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as the sole 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” (Public Resources Code Section 21099(b)(1)).

Pursuant to SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines to implement SB 743 on December 28, 2018. The revised CEQA Guidelines establish new criteria for determining the significance of transportation impacts. Under the new Guidelines, VMT-related metric(s) that evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects were required beginning on July 1, 2020. The legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, or any other planning requirements that require evaluation of LOS, but these metrics may no longer constitute the sole basis for determining transportation impacts under CEQA.

California Department of Transportation

Intersections within incorporated cities associated with freeway on- and off-ramps fall under Caltrans jurisdiction. Caltrans approves the planning, design, and construction of improvements for all state-controlled facilities. Caltrans uses the Highway Capacity Manual 6 (HCM 6) methodology to evaluate intersections within its jurisdiction. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections because 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. For state-controlled intersections, LOS standards and impact criteria specified by Caltrans will apply (see Table 5.17-1).

As stated in the “Guide for the Preparation of Traffic Impact Studies” (2002), “Caltrans endeavors to maintain a target LOS at the transition between LOS ‘C’ and LOS ‘D’ on State highway facilities.” Consistent with the City and County requirements, this analysis defines LOS E or F as deficient for state highway facilities.

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Regional Regulations

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. 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.

2020 Regional Transportation Plan/Sustainable Community Strategy (Connect SoCal)

Every four years SCAG updates the Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS) for the six-county region that includes Los Angeles, San Bernardino, Riverside, Orange, Ventura, and Imperial counties.

On September 3, 2020, SCAG adopted the 2020-2045 RTP/SCS, Connect SoCal, which encompasses four principles that are important to the region's future—mobility, economy, healthy/complete communities, and environment. Connect SoCal explicitly lays out goals related to housing, transportation technologies, equity, and resilience in order to adequately reflect the increasing importance of these topics in the region. 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 emissions from transportation (excluding good movement). The RTP/SCS is meant to provide growth strategies that would achieve the regional greenhouse gas emissions reduction targets identified by the California Air Resources Board. However, the RTP/SCS does not require that local general plans, specific plans, or zoning be consistent with the RTP/SCS; instead, it provides incentives to governments and developers for consistency.

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 11 gas tax increase required California's urbanized areas (areas with populations of 50,000 or more), to adopt a CMP. The CMP is intended to link 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. The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System. Per the CMP guidelines, this number is based on the desire to analyze any impacts that comprise 3 percent or more of the existing CMP highway system facilities' capacity. The CMP highway system includes specific roadways—including state highways and super streets (now known as smart streets)—and CMP arterial monitoring locations/intersections. Therefore, the CMP traffic impact analysis requirements relate only to the designated CMP highway system.

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Local Regulations

City of Brea General Plan

The Circulation Element of the City of Brea General Plan provides goals and policies for efficient regional transportation facilities, the local circulation system, the public transportation system, and pedestrian and bicycle facilities (Brea 2003). Applicable policies from the General Plan include:

- **Policy CD-10.1.** Work continually with Caltrans to improve access to and from State Route 57.
- **Policy CD-10.4.** Work with Caltrans, the Orange County Transportation Authority, and surrounding jurisdictions to provide adequate capacity on regional routes for through traffic and to minimize cut-through traffic on the local street system.
- **Policy CD-13.4.** Require new developments to provide for the use of alternative modes of transit via internal trails or travel ways—public or private—for pedestrians and vehicles other than cars. New developments shall include such features as well-designed sidewalks and parkways, bike lanes and paths, and dedicated bus turn-outs.

City of Brea Municipal Code

The municipal code includes regulations and standards that govern traffic, parking and loading, encroachments on the public right-of-way, and development in Brea. Title 10, Vehicles and Traffic, includes general traffic regulations, traffic-control devices, operation of vehicles and bicycles, pedestrian regulations, and truck routes and terminals regulations.

Any modifications to the roadway networks, which includes driveways, curbs, and sidewalks, would be subject to approval by the City of Brea, and any construction work within the right-of-way of any public roadway would require the issuance of a permit by the City of Brea.

City of Brea Development Impact Fees

In July 1995, the Brea City Council adopted Ordinance 966, establishing traffic impact fees for all new development in Brea. Based on a study conducted in 2011, the City Council adopted Resolution 2011-096 to update the impact fees; it came into effect on February 4, 2012. The traffic impact fee schedule is:

- Low Density Residential (up to 6 dwelling units [du] per acre): \$1,974/du
- Medium Density Residential (7 to 12 du per acre): \$1,453/du
- High Density Residential (13 or more du per acre): \$1,203/du
- Commercial, General, and Mixed Use: \$2.35/gross square foot
- Regional Commercial: \$2.24/gross square foot

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- Office/Industrial: \$1.25/gross square foot
- All other uses: \$89/trip end

City of Brea VMT Thresholds

In accordance with SB 743, the City of Brea adopted thresholds for VMT on October 6, 2020. They are consistent with the OPR Technical Advisory, which states that projects generating less than 110 daily vehicle trips may be presumed to have a less than significant impact (LLG 2021a).

5.11.1.2 EXISTING CONDITIONS

Existing VMT

Table 5.11-1, *Existing VMT*, shows the estimated VMT generated by the existing commercial and retail uses at the Brea Plaza project site.

Table 5.11-1 Existing and Project VMT

Scenario	Daily VMT ¹	Service Population (SP) ²	VMT/SP
Existing Brea Plaza Shopping Center	84,019	235	357.53

Notes:

¹ CalEEMod Version 2016.3.25 based on trip generation provided by LLG (see Appendix J1).

² SP is employees plus residents.

Existing Roadway Network

Intersections

In collaboration with the City of Brea staff, nine key study intersections have been identified; these intersections provide regional and local access to the project site and define the extent of the boundaries for the traffic circulation analysis. These intersections are listed here with their governing jurisdictions and shown in Figure 5.11-1, *Existing Roadway Conditions and Intersection Controls*.

1. State Route 57 (SR-57) SB Ramps at Imperial Highway / Caltrans
2. SR-57 NB Ramps/Brea Plaza Driveway 1 at Imperial Highway / Caltrans
3. South Associated Road at Birch Street / Brea
4. South Associated Road at Greenbriar Lane / Brea
5. South Associated Road at Imperial Highway / Caltrans
6. Castlegate Lane/Placentia Avenue at Imperial Highway / Caltrans
7. South Associated Road at Brea Plaza Driveway 2 / Brea

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8. South Associated Road at Brea Plaza Driveway 3 / Brea
9. Brea Plaza Driveway 4 at Imperial Highway / Caltrans

Street System

The principle local network of streets serving the project site includes Birch Street, Imperial Highway, and South Associated Road.

- **Birch Street** is a four-lane, divided roadway oriented east-west. The posted speed limit on Birch Street is 35 miles per hour (mph) west of State College Boulevard, 45 mph between State College Boulevard and South Associated Road, and 50 mph east of South Associated Road. On-street parking is not permitted along this roadway. Birch Street is designated a Primary Arterial in the City of Brea's Master Plan of Roadways. A traffic signal controls the study intersection of Birch Street at South Associated Road.
- **Imperial Highway** is a six-lane, divided roadway generally oriented east-west. The posted speed limit on Imperial Highway is 45 mph west of SR-57 and 50 mph east of SR-57. On-street parking is not permitted. Imperial Highway is designated a Smart Street in Brea's Master Plan of Roadways. A traffic signal controls the study intersections of Imperial Highway at SR-57 SB Ramps, SR-57 NB Ramps, South Associated Road, and Castlegate Lane / Placentia Avenue.
- **South Associated Road** is a four-lane, divided roadway generally oriented north-south. The posted speed limit on South Associated Road is 40 mph. On-street parking is not permitted. South Associated Road is designated a Secondary Arterial in the City's Master Plan of Roadways. Traffic signals control the study intersections of South Associated Road at Birch Street, Greenbriar Lane, and Imperial Highway.

Existing Collision History

Collision data from May 2016 through May 2021 was collected for key signalized study intersections in the project vicinity (LLG 2021b). There was no reported accident history at the Brea Plaza Driveways (Intersections #7–South Associated Road at Brea Plaza Drive 2, #8–South Associated Road and Brea Plaza Driveway 3, and #9–Brea Plaza Drive 4 at Imperial Highway). Table 5.11-2, *Intersection Accident History*, shows the intersection accident history for the key signalized intersections.

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Table 5.11-2 Intersection Accident History

Key Intersection	Time Period	Total Number of Accidents
#1 SR-57 SB Ramps at Imperial Highway	May 2016 – May 2017	8
	May 2017 – May 2018	3
	May 2018 – May 2019	8
	May 2019 – May 2020	7
	May 2020 – May 2021	4
	Total	30
#2 SR-57 NB Ramps / Brea Plaza Driveway 1 at Imperial Highway	May 2016 – May 2017	20
	May 2017 – May 2018	18
	May 2018 – May 2019	12
	May 2019 – May 2020	8
	May 2020 – May 2021	11
	Total	69
#3 South Associated Road at Birch Street	May 2016 – May 2017	4
	May 2017 – May 2018	1
	May 2018 – May 2019	4
	May 2019 – May 2020	6
	May 2020 – May 2021	1
	Total	16
#4 South Associated Road at Greenbriar Lane	May 2016 – May 2017	5
	May 2017 – May 2018	3
	May 2018 – May 2019	1
	May 2019 – May 2020	3
	May 2020 – May 2021	1
	Total	13
#5 South Associated Road at Imperial Highway	May 2016 – May 2017	11
	May 2017 – May 2018	17
	May 2018 – May 2019	14
	May 2019 – May 2020	14
	May 2020 – May 2021	15
	Total	71
#6 Placentia Avenue / Castlegate Lane at Imperial Highway	May 2016 – May 2017	13
	May 2017 – May 2018	8
	May 2018 – May 2019	11
	May 2019 – May 2020	6
	May 2020 – May 2021	5
	Total	43

Source: LLG 2021b (Appendix J2).

Existing Transit Facilities

Public transit bus service is provided in the project area by OCTA. Figure 5.11-2, *Transit Stops*, shows the existing transit stops near project site. Four OCTA bus routes operate in the vicinity of the project site on Birch Street, South Associated Road, Brea Boulevard, and State College Boulevard:

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- **OCTA Route 57 (Brea to Newport Beach):** Route 57 is a local bus route serving the cities of Brea, Fullerton, Anaheim, Orange, Santa Ana, Costa Mesa, and Newport Beach. The major routes of travel include State College Boulevard and Bristol Street. The bus stops along State College Boulevard at the intersection of Imperial Highway are nearest to the project site. Route 57 operates on approximately 15-minute headways during weekdays and weekends.
- **OCTA Route 129 (La Habra to Anaheim):** Route 129 is a community bus route serving the cities of Anaheim, Placentia, Yorba Linda, Brea, and La Habra. The major routes of travel include La Habra Boulevard, Brea Boulevard, Birch Street, and Kraemer Boulevard. Nearest to the project site are bus stops along Birch Street and South Associated Road. Route 129 operates on approximately 45-minute headways during weekdays and 60-minute headways on weekends.
- **OCTA Route 142 (La Habra to Brea):** Route 143 is a community bus route serving the cities of Fullerton, Brea, and La Habra. The major routes of travel include Whittier Boulevard, Harbor Boulevard, Brea Boulevard, and Birch Street. The bus stops on Birch Street at State College Boulevard and Brea Mall are nearest to the project site. Route 143 operates on approximately 75-minute headways during weekdays and 65-minute headways on weekends.
- **OCTA Route 153 (Brea to Anaheim):** Route 153 is a community bus route serving the cities of Brea, Placentia, Fullerton, Anaheim, and Orange. The major routes of travel include Placentia Avenue. The bus stops on South Associated Road at Greenbriar Lane and South Associated Road at Imperial Highway are the nearest bus stops to the project site. Route 153 operates on approximately 60-minute headways during weekdays and weekends.

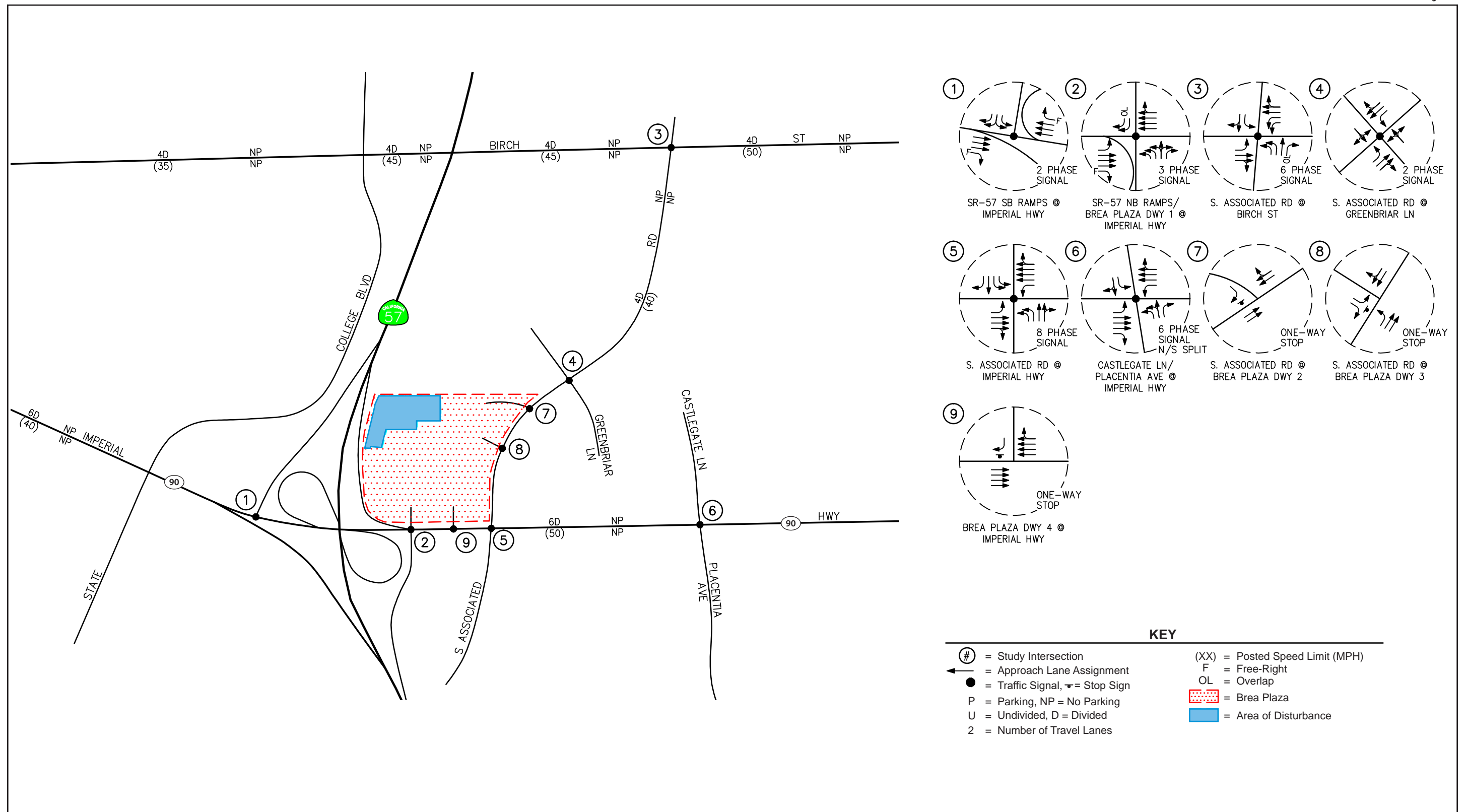
Existing Bicycle Facilities

The Bikeway Plan recognizes the needs of bicycle users and aims to create a complete and safe bicycle network throughout the city. The existing and proposed bikeways as identified in the Brea Bike Plan are shown in Figure 5.11-3, *Existing and Proposed Bikeways*. In close proximity to the project site are existing Class II bike lanes along Birch Street, east of State College Boulevard, and on South Associated Road and a Class I bike trail (Tracks at Brea Trail).

Existing Pedestrian Facilities

Pedestrian connectivity between Brea Plaza and adjacent uses are provided via the existing sidewalk system. Sidewalks are generally provided throughout the city along with crosswalks at most major intersections; in particular, sidewalks are provided along Imperial Highway and South Associated Road bordering the site. Furthermore, crosswalks are provided at each of the key study sections to provide connectivity across the streets that border the site.

Figure 5.11-1 - Existing Roadway Conditions and Intersection Controls
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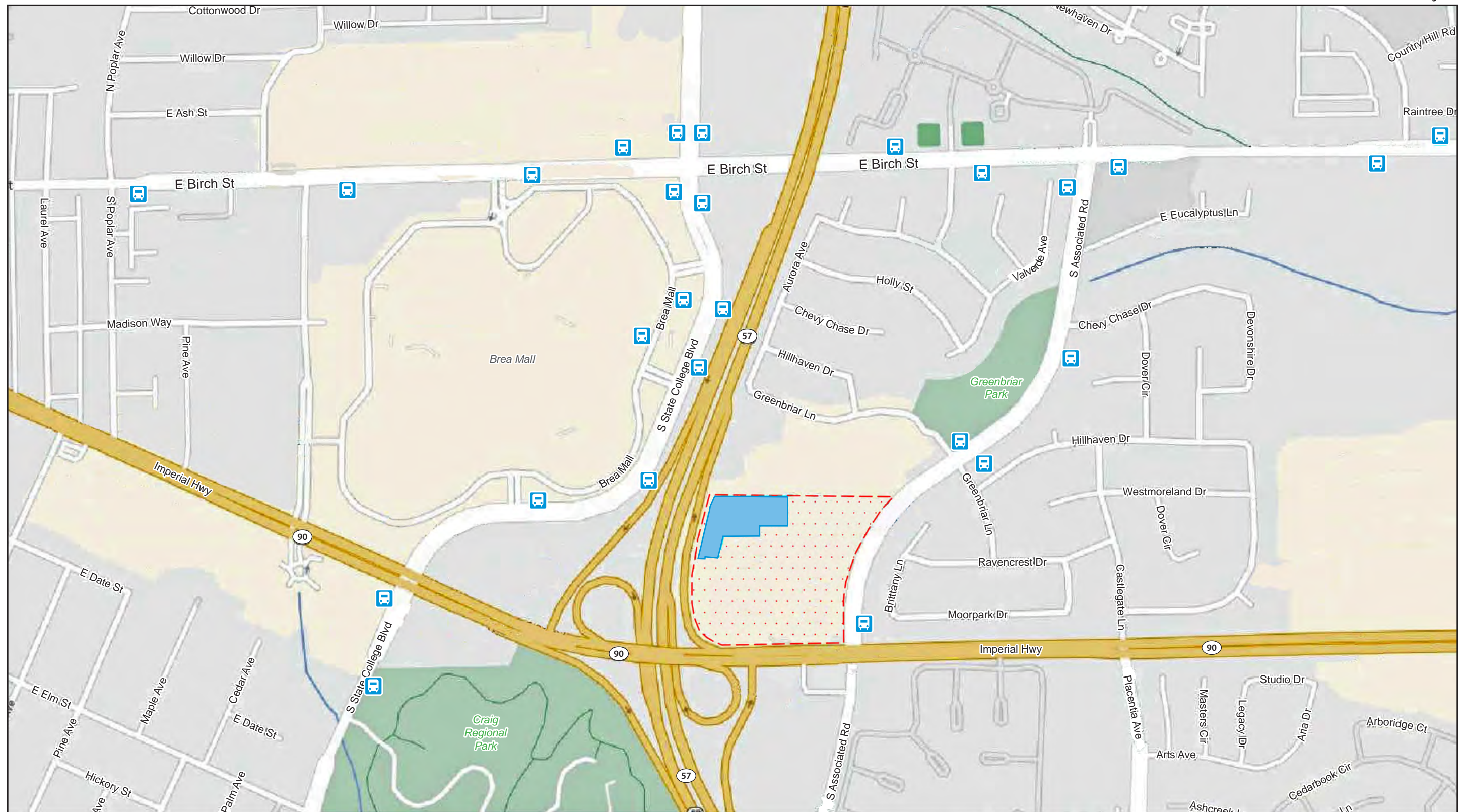





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Figure 5.11-2 - Transit Stops
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 Project Boundary
 Area of Disturbance
 Transit Stop

Source: Linscott Law & Greenspan Engineers, 2021

0 500
Scale (Feet)

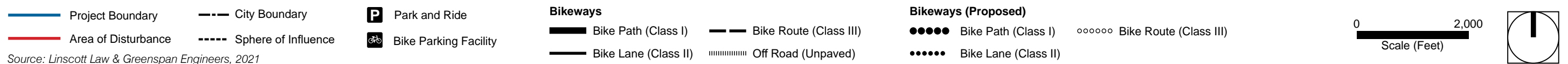
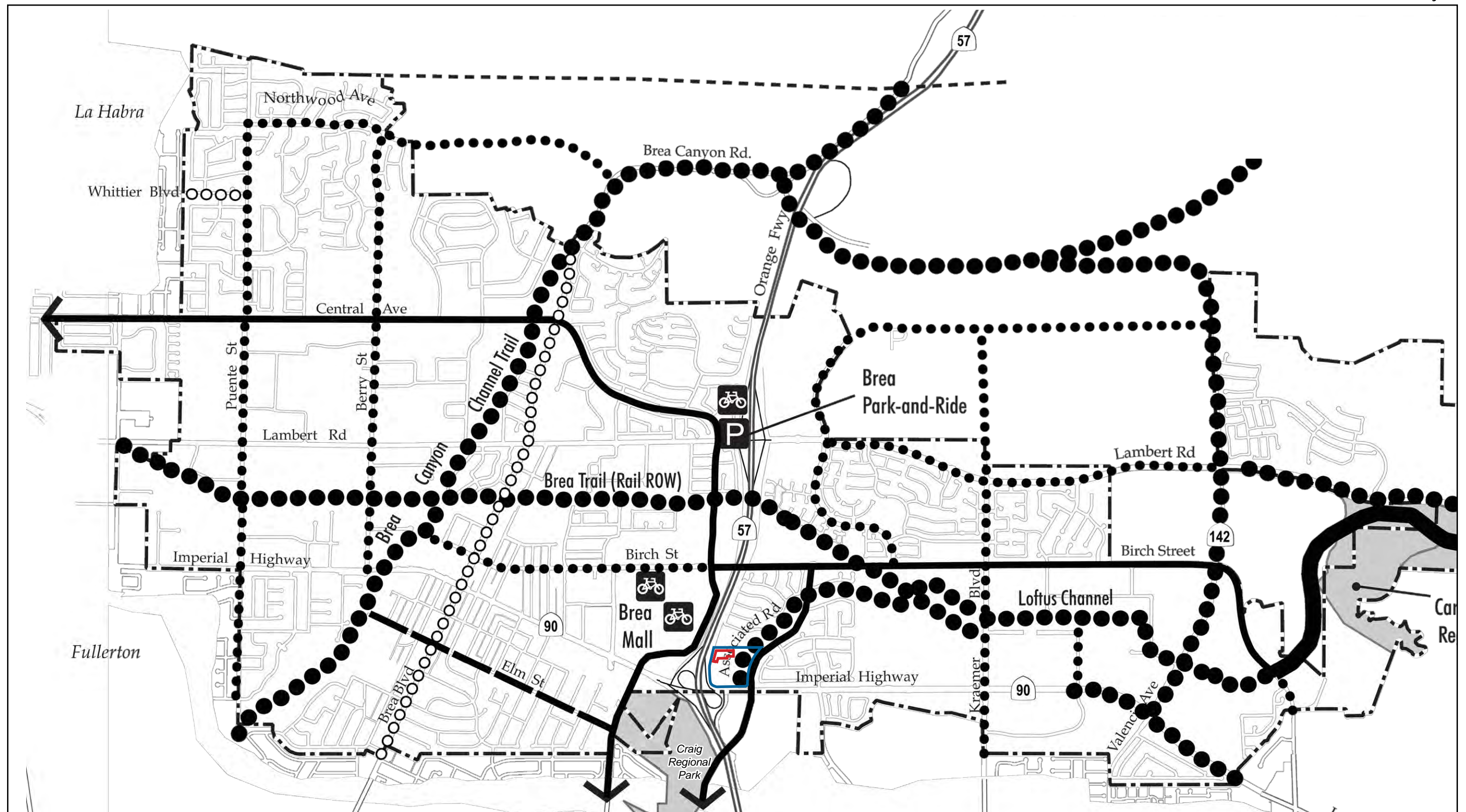


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Figure 5.11-3 - Existing and Proposed Bikeways
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5.11.2 Thresholds of Significance

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

- 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 § 15064.3, subdivision (b).
- 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.

5.11.2.1 CITY OF BREA SIGNIFICANCE THRESHOLDS

VMT Thresholds

As described in 5.11.1.1, *Regulatory Background*, under “Senate Bill 743,” as of July 1, 2020, auto delay (traffic congestion) can no longer be used as the criteria for transportation analysis under CEQA. Automobile traffic impacts have historically been analyzed with LOS methodologies based on roadway capacity metrics (volume/capacity). LOS will be replaced with a new metric—VMT.

The City of Brea adopted significance thresholds and methodology to comply with SB 743 on October 6, 2020. For projects that exceed the screening criteria:

- **Project-Level Impacts** would result in a significant project-generated VMT impact if the baseline, or cumulative, project-generated VMT/SP exceeds the City of Brea General Plan Buildout VMT/SP.
- **Cumulative Impacts** under the no-project condition shall reflect the adopted RTP/SCS, so if a project is consistent with the SCAG RTP/SCS, its cumulative impacts on VMT shall be considered less than significant.

Multimodal Facility Impacts

A significant impact would occur to transit, bicycle, and/or pedestrian facilities if the project would Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

5.11.2.2 ORANGE COUNTY TRANSPORTATION AUTHORITY SIGNIFICANCE THRESHOLDS

Most local agencies in Orange County and Caltrans have adopted LOS standards of ‘C’ or ‘D’ in an effort to maintain a desired LOS for the local circulation system. To address CMP legislative requirements and establish a minimum LOS along the regional system of roadways and highways in the county, OCTA has approved the following threshold:

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- The CMP requires that a traffic analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System.

5.11.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for transportation and traffic impacts are identified below.

- PPP TRAF-1 The proposed project is required to pay development impact fees to the City of Brea pursuant to the City's AB 1600 Transportation Improvement Nexus Program (Ordinance 996). Based on a transportation improvement nexus program study conducted in 2011, the City Council adopted Resolution 2011-096, which updated the impact fees, effective February 4, 2012. Fair-share fees offset or mitigate the cumulative traffic impacts caused by new development. The program ensures all future development in the City of Brea contributes on a fair-share basis.
- PPP TRAF-2 Modifications to the roadway network, including driveways, curbs, and sidewalks, are subject to approval of the City of Brea. Construction work within the right-of-way of a public roadway requires the issuance of a permit by the City of Brea.
- PPP TRAF-3 The proposed project is required to implement the following bicycle safety improvements as a condition of approval. The project shall restripe the west leg of the intersection of South Associated Road at Birch Street to provide an exclude east-bound right-turn pocket. To implement this improvement, the existing traffic signal at South Associated Road and Birch Street shall be modified to allow for an eastbound right-turn overlap phase. In addition, the existing R73-5(CA) sign for the northbound left-turn lanes shall be replaced with a R73-6(CA) sign to restrict U-turns in the northbound direction.

5.11.4 Environmental Impacts

5.11.4.1 METHODOLOGY

Table 5.11-3, *Existing and Project Trip Generation Summary*, summarizes the calculated trip generation for existing and proposed conditions. Under existing conditions, the project site generates 202 AM peak hour trips, 576 PM peak hour trips, and 1,261 midday peak hour trips. Under the proposed project, the site would generate 302 AM peak hour trips, 516 PM peak hour trips, and 772 midday peak hour trips. The net change would add 100 AM peak hour trips, subtract 60 PM peak hour trips, and subtract 489 midday peak hour trips.

Cross-access between Mercury Insurance and Brea Plaza is currently allowed via the Mercury Insurance easement. Patrons/employees of the Mercury Insurance Building are currently able to park in the existing parking spaces within Brea Plaza located in the north end of the site. However, the easement will no longer be applicable as part of the proposed project. Therefore, employees/patrons of Mercury Insurance would utilize Greenbriar Road to access their site rather than cutting through Brea Plaza. This shift in volumes has been accounted for under the project conditions.

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Table 5.11-3 Existing and Project Trip Generation Summary

Project Description	Weekday							Saturday			
	Daily 2-Way	AM Peak Hour			PM Peak Hour			Daily 2-Way	Midday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total		Enter	Exit	Total
Trip Generation Rates											
221: Multifamily Housing (Mid-Rise) (TE/DU)	5.44	26%	74%	0.3	61%	39%	0.44	4.91	49%	51%	0.44
444: Movie Theater (TE/Seat)	1.76	-	-	-	55%	45%	0.09	2.24	56%	44%	0.46
710: General Office Building (TE/TSF)	9.74	86%	14%	1.16	16%	84%	1.15	2.21	54%	46%	0.53
820: Shopping Center (TE/TSF GLA)	Eq. ¹	62%	38%	Eq. ¹	48%	52%	Eq. ¹	Eq. ¹	52%	48%	Eq. ¹
Existing Brea Plaza											
Shopping Center (146,879 SF)	7,808	140	85	225	347	375	722	11,311	403	436	839
Pass-by Reduction ¹	-781	-14	-9	-23	-118	-127	-245	-1,131	-40	-44	-84
Total	7,027	126	76	202	229	248	477	10,180	363	392	755
Existing Theater (1,100 seats)	1,936	-	-	-	54	45	99	2,464	283	223	506
Existing Brea Plaza Total	8,963	126	76	202	283	293	576	12,644	646	615	1,261
Proposed Brea Plaza											
Shopping Center (146,879 SF)	7,808	140	85	225	347	375	722	11,311	403	436	839
Internal Capture ²	-602	-2	-1	-3	-20	-30	-50	-507	-23	-25	-48
Subtotal	7,206	138	84	222	327	345	672	10,804	380	411	791
Pass-by Reduction ¹	-721	-14	-8	-22	-111	-117	-228	-1,080	-38	-41	-79
Total	6,485	124	76	200	216	228	444	9,724	342	370	712
Proposed Residential (229 DU)	1,246	21	61	82	62	39	101	1,124	49	52	101
Internal Capture ²	-576	0	-2	-2	-29	-18	-47	-508	-23	-24	-47
Total	670	21	59	80	33	21	54	616	26	28	54
Proposed Office (21,355 SF)	208	22	3	25	4	21	25	47	6	5	11
Internal Capture ²	-80	-2	-1	-3	-3	-4	-7	-25	-4	-1	-5
Total	128	20	2	22	1	17	18	22	2	4	6
Proposed Brea Plaza Total	7,283	165	137	302	250	266	516	10,362	370	402	772
Net Trip Generation	-1,680	39	61	100	-33	-27	-60	-2,282	-276	-213	-489

Source: LLG 2021b (DEIR Appendix J2).

Notes: TE/TSF = trip end per thousand square feet gross leasable area; TE/DU = trip end per dwelling unit; TE/Seat = trip end per seat.

¹ Pass-By Trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used: Shopping Center: PM Peak Hour – 34%, Daily/AM peak hour/Saturday Daily/Saturday Midday Peak Hour – 10%.

² Project trip generation was adjusted to account for internal capture between the retail and residential components of the project. Because there are no Saturday internal capture worksheets available, Weekday Daily and Weekday PM peak hour calculations have been applied to Saturday Daily and Saturday Midday peak hour.

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5.11.4.2 IMPACT ANALYSIS

Impact 5.11-1: The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. [Threshold T-1]

General Plan

The City's transportation network includes roadways and pedestrian, bicycle, and public transit facilities to allow for the movement of persons and goods in the city. The policies of the City of Brea General Plan Circulation Element that are applicable to the proposed project are:

- **Policy CD-10.1.** Work continually with Caltrans to improve access to and from State Route 57.
- **Policy CD-10.4.** Work with Caltrans, the Orange County Transportation Authority, and surrounding jurisdictions to provide adequate capacity on regional routes for through traffic and to minimize cut-through traffic on the local street system.
- **Policy CD-13.4.** Require new developments to provide for the use of alternative modes of transit via internal trails or travel ways—public or private—for pedestrians and vehicles other than cars. New developments shall include such features as well-designed sidewalks and parkways, bike lanes and paths, and dedicated bus turn-outs.

The proposed project would provide a free intra-bus transportation system that would include stops at various locations and would reduce traffic and parking within the project area, would include rental cars for the use by apartment residents and office tenants, and would create a rideshare waiting area.

As indicated in Appendix J2, the existing pedestrian system, which provides access to and from the project site, is adequate and would continue to serve the proposed project. The proposed project would protect the existing sidewalks and, if required by the City, would also repair or construct new sidewalks along the project site frontage.

The Brea General Plan identifies an extension of the Class II bike lane along Birch Street west of State College Boulevard as well as the installation of a Class II bike lane along State College Boulevard. The proposed project would encourage the use of bicycles by providing 108 long-term bicycle parking spaces and 22 short-term bicycle parking spaces in the parking structure.

Therefore, the proposed project would comply with the policies of the General Plan's Circulation Element by working with Caltrans to ensure improved access to SR-57 and by providing amenities which would promote the use of active transportation in the city. Impacts would be less than significant.

SCAG Connect SoCal Consistency

The proposed project's consistency with the 2020 SCAG RTP/SCS, Connect SoCal, is detailed in Table 5.6-2, *SCAG's Connect SoCal Consistency Analysis*, of Section 5.6, *Land Use and Planning*. The goals of Connect SoCal

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are related to housing, transportation technologies, equity, and resilience. As mentioned in Section 5.6, *Land Use and Planning*, the proposed project would result in high-density housing and employment within a half mile of transit and is therefore consistent with Connect SoCal. Impacts would be less than significant.

Congestion Management Program Compliance Assessment

The CMP requires that a traffic analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System. The proposed project is forecast to result in 1,680 fewer weekday net daily trip-ends, and therefore a CMP analysis is not required. Impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant.

Impact 5.11-2: The proposed project would not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b), regarding policies to reduce vehicle miles traveled. [Threshold T-2]

CEQA Guidelines Section 15064.3 describes how transportation impacts are to be analyzed after SB 743. It eliminates auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as the sole basis for determining significant impacts:

Generally, VMT is the most appropriate measure of transportation impacts. For the purposes of this section, VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) ... [regarding roadway capacity], a project's effect on automobile delay shall not constitute a significant environmental impact.

As indicated in the VMT Assessment (Appendix J1) and consistent with the OPR Technical Advisory, the City of Brea's VMT guidelines indicate that projects generating less than 110 daily vehicle trips would have a less than significant impact. As shown in Table 5.11-3, the proposed project would replace the existing movie theater with apartments and office space, which would generate 1,680 fewer daily weekday trips when compared to the existing uses on-site (LLG 2021a). Since the project would generate a decrease in daily vehicle trips to and from the site, it can be assumed that the VMT would also be reduced; and thus, the project would have no significant negative impact on the transportation system. Though the project site not considered a transit priority area, the proposed project would introduce high-density residential near existing employment centers and would improve the city's jobs-housing balance (see Section 5.8, *Population and Housing*). Furthermore, as shown in Table 5.11-4, *Existing and Project VMT*, the proposed project would result in 13,659 fewer VMT than the existing uses on-site. Based on the trips generation assessment, the proposed project would generate less than 110 daily vehicle trips. Therefore, in accordance with the City of Brea's Transportation Impact Analysis Guidelines, the proposed project is exempt from a VMT assessment, and it is assumed that implementation of the proposed project would not have the potential to result in a VMT impact. Therefore, impacts are less than significant.

Level of Significance Before Mitigation: Less Than Significant.

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Table 5.11-4 Existing and Project VMT

Scenario	Daily VMT ¹	Service Population (SP) ²	VMT/SP
Existing Brea Plaza Shopping Center	84,019	235	357.53
Proposed Project	70,360	480	146.58
Change	-13,659	245	-210.95

Notes:

¹ CalEEMod Version 2016.3.25 based on trip generation provided by LLG (see Appendix J1).² Service population (SP) is employees plus residents.

Impact 5.11-3: Project circulation improvements have been incorporated to adequately address potentially hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access. [Thresholds T-3 and T-4]

A site access and internal circulation evaluation was conducted to determine if there were potential conflicts associated with site access, including potential vehicle pedestrian conflicts.

Intersection Vehicle Queuing Evaluation

Caltrans has identified existing safety issues due to drivers weaving along Imperial Highway at the SR-57 northbound on-ramp, which is 150 feet from the Brea Plaza Driveway #1. To address potential safety hazards, a queuing evaluation was completed at the nine study intersections to assess if the stacking space for the proposed project is adequate. Insufficient storage space onsite can contribute to hazardous condition when there is insufficient stacking onto the freeway, resulting in drivers weaving between lanes, resulting in an increase in collisions.

Year 2024 Traffic Conditions

Table 5.11-5, *Year 2024 Peak Hour Intersection Queuing Analysis*, presents the results of the AM and PM peak hour queuing analyses for the nine study intersections. As shown in the table, the queues for the nine intersections are considered adequate under the Year 2024 Cumulative Traffic Conditions and Year 2024 Cumulative Plus Project Traffic Conditions. Furthermore, review of Intersection #2, SR-57 NB Ramps/Brea Plaza Driveway 1/Imperial Highway, indicates that the proposed project would not adversely affect the queues at that intersection or adversely contribute to the potential weaving along Imperial Highway between the SR-57 NB On-Ramp and Brea Plaza Driveway 1. Therefore, impacts would be less than significant.

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Table 5.11-5 Year 2024 Peak Hour Intersection Queuing Analysis

Key Intersections	Estimated Storage Provided (feet)	Year 2024 Cumulative Traffic Conditions				Year 2024 Cumulative Plus Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/Min. Storage required¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required¹	Adequate Storage (Yes/No)
#1. SR-57 SB Ramps at Imperial									
SB Left Turn	1,300	398	Yes	456	Yes	401	Yes	455	Yes
SB Left/Right Turn	1,300	398	Yes	456	Yes	401	Yes	455	Yes
SB Right Turn	1,300²	401	Yes	456	Yes	401	Yes	456	Yes
#2. SB-57 Ramps/Brea Plaza Driveway 1 at Imperial Highway									
NB Left Turn	955³	500	Yes	494	Yes	500	Yes	495	Yes
NB Left/Through/Right	1,300	570	Yes	525	Yes	582	Yes	521	Yes
NB Right Turn	1,300⁴	417	Yes	357	Yes	425	Yes	350	Yes
SB Right Turn	145⁵	25	Yes	129	Yes	39	Yes	93	Yes
EB Left Turn	260	162	Yes	258	Yes	132	Yes	216	Yes
EB Through	990	510	Yes	438	Yes	531	Yes	437	Yes
WB Through	435	126	Yes	209	Yes	116	Yes	215	Yes
WB Through/Right	435	126	Yes	209	Yes	116	Yes	215	Yes
#3. South Associated Road at Birch Street									
NB Left Turn	298⁶	173	Yes	275	Yes	167	Yes	272	Yes
NB Right Turn	230	162	Yes	189	Yes	147	Yes	185	Yes
SB Left Turn	100	66	Yes	25	Yes	66	Yes	25	Yes
EB Left Turn	150	25	Yes	25	Yes	25	Yes	25	Yes
WB Left Turn	230⁵	231	Yes⁷	182	Yes	234	Yes⁷	182	Yes
#4. South Associated Road at Greenbriar Lane									
NB Left Turn	100	25	Yes	25	Yes	25	Yes	25	Yes
SB Left Turn	110	25	Yes	25	Yes	25	Yes	25	Yes
#5. South Associated Road at Imperial Highway									
NB Left Turn	170¹	101	Yes	143	Yes	101	Yes	141	Yes
SB Left Turn	210⁸	96	Yes	239	Yes⁹	104	Yes	225	Yes⁹
SB Right Turn	215	25	Yes	25	Yes	25	Yes	25	Yes
EB Left Turn	340	195	Yes	294	Yes	275	Yes	308	Yes
WB Left Turn	200	113	Yes	212	Yes⁹	113	Yes	213	Yes⁹
#6. Placentia Avenue/Castlegate Lane at Imperial Highway									
NB Left Turn	195	123	Yes	192	Yes	123	Yes	191	Yes
NB Right Turn	195	25	Yes	25	Yes	25	Yes	25	Yes
SB Left Turn	85	42	Yes	44	Yes	42	Yes	44	Yes
EB Left Turn	140	25	Yes	25	Yes	25	Yes	25	Yes
EB Right Turn	200	25	Yes	25	Yes	25	Yes	25	Yes
WB Left Turn	225	216	Yes	267	Yes⁹	216	Yes	267	Yes⁹

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Table 5.11-5 Year 2024 Peak Hour Intersection Queuing Analysis

Key Intersections	Estimated Storage Provided (feet)	Year 2024 Cumulative Traffic Conditions				Year 2024 Cumulative Plus Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/Min. Storage required¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required¹	Adequate Storage (Yes/No)
#7. South Associated Road at Brea Plaza Driveway 2									
EB Right Turn	90	25	Yes	25	Yes	25	Yes	25	Yes
#8. South Associated Road at Brea Plaza Driveway 3									
NB Left Turn	90	25	Yes	25	Yes	25	Yes	25	Yes
EB Left Turn	75	25	Yes	25	Yes	25	Yes	25	Yes
EB Right Turn	75	25	Yes	25	Yes	25	Yes	25	Yes
#9. Brea Plaza Driveway 4 at Imperial Highway									
SB Right Turn	160	25	Yes	25	Yes	25	Yes	25	Yes

Source: LLG 2021b (DEIR Appendix J2).

Notes: NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound

¹ Maximum queue is calculated by multiplying the average queue by a factor of 1.5 for signalized intersections. Maximum queue is based on the 95th percentile for unsignalized intersections.² The southbound right-turn pocket consists of approximately 265 feet of storage; however, an additional 1,035 feet of storage from the shared left/right-turn lane can accommodate the remaining vehicles.³ The northbound left-turn consists of dual lanes. The first lane consists of approximately 1,300 feet of storage and the second lane consists of approximately 610 feet of storage. The storage reported is the average of both lanes.⁴ The northbound right-turn pocket consists of approximately 500 feet of storage; however, an additional 800 feet of storage from the shared left/thru/right lane can accommodate the remaining vehicles.⁵ The turn lane consists of dual lanes.⁶ The northbound left-turn consists of dual lanes. The first lane consists of approximately 370 feet of storage and the second lane consists of approximately 225 feet of storage. The storage reported is the average of both lanes.⁷ The remaining queue can be accommodated within the transition area of the turn-lane. In addition, the project does not add any project trips to this movement.⁸ The northbound left-turn consists of dual lanes. The first lane consists of approximately 240 feet of storage and the second lane consists of approximately 100 feet of storage. The storage reported is the average of both lanes.⁹ The remaining queue can be accommodated within the transition area of the turn-lane.

Year 2045 General Plan Buildout Traffic Conditions

Table 5.11-6, *Year 2045 Peak Hour Intersection Queuing Analysis*, presents the AM and PM peak hour queuing analyses results for the nine study intersections. As shown in this table, the queues for these intersections are considered adequate under the Year 2045 General Plan Buildout Traffic Conditions and Year 2045 General Plan Buildout Plus Project Traffic Conditions. Furthermore, review of Intersection #2, SR-57 NB Ramps/Brea Plaza Driveway 1/Imperial Highway, indicates that the proposed project would not adversely affect the queues at that intersection or adversely contribute to the potential weaving along Imperial Highway between the SR-57 NB On-Ramp and Brea Plaza Driveway 1. Therefore, impacts would be less than significant.

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Table 5.11-6 Year 2045 Peak Hour Intersection Queuing Analysis

Key Intersections	Estimated Storage Provided (feet)	Year 2045 General Plan Buildout Traffic Conditions				Year 2045 General Plan Buildout Plus Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/Min. Storage required ¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required ¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required ¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required ¹	Adequate Storage (Yes/No)
#1. SR-57 SB Ramps at Imperial									
SB Left Turn	1,300	383	Yes	467	Yes	381	Yes	465	Yes
SB Left/Right Turn	1,300	383	Yes	467	Yes	381	Yes	465	Yes
SB Right Turn	1,300 ²	374	Yes	464	Yes	384	Yes	464	Yes
#2. SB-57 Ramps/Brea Plaza Driveway 1 at Imperial Highway									
NB Left Turn	955 ³	467	Yes	492	Yes	467	Yes	494	Yes
NB Left/Through/Right	1,300	518	Yes	521	Yes	527	Yes	509	Yes
NB Right Turn	1,300 ⁴	378	Yes	350	Yes	383	Yes	350	Yes
SB Right Turn	145 ⁵	25	Yes	104	Yes	25	Yes	72	Yes
EB Left Turn	260	137	Yes	240	Yes	111	Yes	203	Yes
EB Through	990	530	Yes	416	Yes	548	Yes	414	Yes
WB Through	435	111	Yes	201	Yes	114	Yes	204	Yes
WB Through/Right	435	111	Yes	201	Yes	114	Yes	25	Yes
#3. South Associated Road at Birch Street									
NB Left Turn	298 ⁶	147	Yes	296	Yes	137	Yes	294	Yes
NB Right Turn	230	83	Yes	170	Yes	81	Yes	170	Yes
SB Left Turn	100	51	Yes	25	Yes	51	Yes	25	Yes
EB Left Turn	150	25	Yes	25	Yes	25	Yes	25	Yes
WB Left Turn	220 ⁵	221	Yes ⁹	182	Yes	222	Yes ⁹	182	Yes
#4. South Associated Road at Greenbriar Lane									
NB Left Turn	100	25	Yes	25	Yes	25	Yes	25	Yes
SB Left Turn	110	25	Yes	25	Yes	25	Yes	25	Yes
#5. South Associated Road at Imperial Highway									
NB Left Turn	170 ⁸	90	Yes	137	Yes	90	Yes	137	Yes
SB Left Turn	210 ⁵	95	Yes	203	Yes	101	Yes	192	Yes
SB Right Turn	215	25	Yes	25	Yes	25	Yes	25	Yes
EB Left Turn	340	185	Yes	323	Yes	260	Yes	353	Yes ⁹
WB Left Turn	200	114	Yes	267	Yes ⁹	114	Yes	267	Yes ⁹
#6. Placentia Avenue/Castlegate Lane at Imperial Highway									
NB Left Turn	195	108	Yes	176	Yes	108	Yes	174	Yes
NB Right Turn	195	25	Yes	25	Yes	25	Yes	25	Yes
SB Left Turn	85	30	Yes	30	Yes	30	Yes	30	Yes

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Table 5.11-6 Year 2045 Peak Hour Intersection Queuing Analysis

Key Intersections	Estimated Storage Provided (feet)	Year 2045 General Plan Buildout Traffic Conditions				Year 2045 General Plan Buildout Plus Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/Min. Storage required ¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required ¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required ¹	Adequate Storage (Yes/No)	Max. Queue/Min. Storage required ¹	Adequate Storage (Yes/No)
EB Left Turn	140	25	Yes	25	Yes	25	Yes	25	Yes
EB Right Turn	200	25	Yes	25	Yes	25	Yes	25	Yes
WB Left Turn	225	225	Yes	264	Yes ⁹	225	Yes	264	Yes ⁹
#7. South Associated Road at Brea Plaza Driveway 2									
EB Right Turn	90	25	Yes	25	Yes	25	Yes	25	Yes
#8. South Associated Road at Brea Plaza Driveway 3									
NB Left Turn	90	25	Yes	25	Yes	25	Yes	25	Yes
EB Left Turn	75	25	Yes	25	Yes	25	Yes	25	Yes
EB Right Turn	75	25	Yes	25	Yes	25	Yes	25	Yes
#9. Brea Plaza Driveway 4 at Imperial Highway									
SB Right Turn	160	25	Yes	25	Yes	25	Yes	25	Yes

Source: LLG 2021b (DEIR Appendix J2).

Notes: NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound

¹ Maximum queue is calculated by multiplying the average queue by a factor of 1.5 for signalized intersections. Maximum queue is based on the 95th percentile for unsignalized intersections.² The southbound right-turn pocket consists of approximately 265 feet of storage; however, an additional 1,035 feet of storage from the shared left/right-turn lane can accommodate the remaining vehicles.³ The northbound left-turn consists of dual lanes. The first lane consists of approximately 1,300 feet of storage and the second lane consists of approximately 610 feet of storage. The storage reported is the average of both lanes.⁴ The northbound right-turn pocket consists of approximately 500 feet of storage; however, an additional 800 feet of storage from the shared left/thru/right lane can accommodate the remaining vehicles.⁵ The turn-lane consists of dual lanes.⁶ The northbound left-turn consists of dual lanes. The first lane consists of approximately 370 feet of storage and the second lane consists of approximately 225 feet of storage. The storage reported is the average of both lanes.⁷ The remaining queue can be accommodated within the transition area of the turn-lane. In addition, the project does not add any project trips to this movement.⁸ The northbound left-turn consists of dual lanes. The first lane consists of approximately 240 feet of storage and the second lane consists of approximately 100 feet of storage. The storage reported is the average of both lanes.⁹ The remaining queue can be accommodated within the transition area of the turn-lane.*Intersection Safety Evaluation*

Because of the safety concerns related to weaving along Imperial Highway approximately 150 feet from the Brea Plaza Driveway 1, a safety evaluation was conducted for key signalized study intersections, which entailed collection of five years of collision history from May 2016 through May 2021 (LLG 2021b). Table 5.11-2 indicates that the study intersections along Imperial Highway have generally declined within the last five years. Caltrans has implemented several improvements that have improved safety along Imperial Highway, including traffic signal and American Disabilities Act improvements. Improvements implemented at these intersections have played a role in reducing the collision frequency and has generally improved safety. Additionally, Table 5.11-3 shows that the proposed project would reduce daily, PM peak hour, and Saturday vehicle trips. The queuing analysis in Tables 5.11-5 and 5.11-6 also did not identify that stacking onsite would exacerbate hazardous conditions associated with drivers weaving onto the SR-57 on-ramps during the AM or

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PM peak hour. Furthermore, implementation of PPP TRAF-3 would increase bicycle safety. Therefore, the proposed project would not cumulatively contribute to impacts in this regard.

Internal Circulation Evaluation

The project site would continue to be served by the existing Brea Plaza driveways, including the signalized intersection of Imperial Highway at SR-57 NB Ramps/Brea Plaza (Intersection #2); a right-turn only driveway on Associated Road (Intersection #7); a full access unsignalized driveway on Associated Road (Intersection #8); and a right-turn only driveway on Imperial Highway (Intersection #9). Since there are no changes proposed at any of the driveways as part of the proposed project, it is assumed that trash trucks, delivery trucks, and fire trucks would continue to access the project site without any issues. Additionally, on-site circulation was evaluated in terms of vehicle-pedestrian conflicts. Based on the proposed site plan, the overall layout does not create any unsafe vehicle-pedestrian conflict points, and the driveway throating is sufficient to prevent internal vehicle queuing/stacking from affecting access to parking spaces.

The on-site circulation is adequate based on review of the proposed site plan, and the alignment, spacing, and throating of the project driveways are adequate. The circulation around the buildings is adequate, with sufficient sight distance along the drive aisles. Therefore, impacts would be less than significant.

Emergency Access

Brea Fire Department Station #1 is 1.70 miles northwest of the project site, and Station #2 is 1.05 miles northwest of the project site. The average dispatch-to-on-scene time for a Brea Fire unit is 7 minutes and 30 seconds (Nigg and Salgado 2021; see Appendix F). The surrounding roadways would continue to offer emergency access to the project area and surrounding properties during and after construction. Moreover, the proposed project would not result in inadequate emergency access, and impacts to adopted emergency response and evacuation plans are less than significant. Impacts to emergency services would be less than significant.

Level of Significance Before Mitigation: Less Than Significant

5.11.5 Cumulative Impacts

The proposed project would be consistent with adopted policies, plans, and programs regarding circulation, including public transit, bicycle, and pedestrian facilities. Cumulatively, the proposed project would not worsen queuing or stacking at the nine study intersections. Site access is adequately designed and would not combine with other area traffic impacts to result in a significant cumulative impact on circulation or create hazardous conditions.

5.11.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.11-1, 5.11-2, and 5.11-3.

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5.11.7 Mitigation Measures

No significant impacts are identified, and no mitigation measures are warranted.

5.11.8 Level of Significance After Mitigation

No significant transportation impacts are identified.

5.11.9 References

Linscott, Law and Greenspan (LLG) Engineers. 2021a, June 17. Vehicle Miles Traveled (VMT) Screening Assessment for the Brea Plaza Expansion Project. Appendix J1.

_____. 2021b, July 29. Traffic Circulation Analysis for the Brea Plaza Expansion Project. Appendix J2.

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5.12 TRIBAL CULTURAL RESOURCES

Tribal Cultural Resources (TCR) include landscapes, sacred places, or objects with a cultural value to a California Native American tribe. This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for the proposed Brea Plaza Expansion Project to impact TCRs in Brea. Potential impacts to other cultural resources (i.e., prehistoric, historic, paleontological, and disturbance of human remains) are evaluated in Section 5.3, *Cultural and Paleontological Resources*. The analysis in this section is based in part on information on consultation with tribes identified in the “Native American Heritage Commission Tribal Consultation List, Orange County,” provided by the Native American Heritage Commission (NAHC) on June 10, 2020, and the tribal consultation correspondence, which are included in Appendix E to this DEIR.

5.12.1 Environmental Setting

5.12.1.1 REGULATORY BACKGROUND

Federal

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (US Code, Title 16, Sections 470aa to mm) became law on October 31, 1979, and has been amended four times. It regulates the protection of archaeological resources and sites that are on federal and Indian lands.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (US Code, Title 25, Sections 3001 et seq.) is a federal law passed in 1990 that established 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

California Public Resources Code

Archaeological resources are protected pursuant to a wide variety of state policies and regulations under the California Public Resources Code (PRC). In addition, cultural resources are recognized as a nonrenewable resource and therefore receive protection under the PRC and CEQA.

PRC Sections 5097.9 to 5097.991 protect Native American historical and cultural resources and sacred sites and identify the powers and duties of the NAHC. They also require notification to descendants regarding Native American human remains and provide for treatment and disposition of human remains and associated grave goods.

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California Health and Safety Code

California Health and Safety Code Section 7050.5 requires that if human remains are discovered on the project site, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and recognizes or has reason to believe the human remains are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC.

California Register of Historical Resources

The California Register of Historical Resources is the state version of the National Register of Historic Places (see also Section 5.3, *Cultural and Paleontological Resources*). It was enacted in 1992 and became official January 1, 1993. The California Register was established to serve as an authoritative guide to the state's significant historical and archaeological resources. Resources that may be eligible for listing include buildings, sites, structures, objects, and historic districts. According to subsection (c) of PRC Section 5024.1, a resource may be listed as a historical resource in the California Register if it meets any of the four National Register criteria.

California Senate Bill 18

Native American prehistoric, archaeological, cultural, spiritual, and ceremonial 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 was signed into law September 2004 and went into effect on March 1, 2005. It placed new requirements on local governments for developments within or near "traditional tribal cultural places" (TTCP). SB 18 requires local jurisdictions to provide opportunities for the involvement of California Native American tribes in the land planning process for the purpose of preserving traditional cultural places. The Final Tribal Guidelines recommend that the NAHC provide written information as soon as possible but no later than 30 days after receiving a request 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 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.

SB 18 is triggered before 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 amendment of specific plans, the Final Tribal Guidelines advises that SB 18 requirements extend to specific plans as well, because 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 § 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

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beliefs, practices, lifeways, and ceremonial activities.) SB 18 also amended Civil Code Section 815.3 and added 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

AB 52 took effect July 1, 2015, and required inclusion of a new section in CEQA documents titled Tribal Cultural Resources, which includes heritage sites. Under AB 52, TCR is defined similar to tribal cultural places under SB 18—sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources. Or the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a historical resource.

Similar to SB 18, AB 52 requires consultation with tribes at an early stage to determine whether the project would have an adverse impact on TCRs and to define mitigation to protect them. 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. The tribes have 30 days after receiving the notification to respond if they wish to engage in consultation. The lead agency must initiate consultation within 30 days of receiving the request from a tribe.

Conclusion of the Tribal Consultation Process

Under both AB 52 and AB 18, if the tribe, and the jurisdiction agree on the mitigation measures necessary for the proposed project, they are included in the project's environmental document. However, consultation does not necessarily predetermine the outcome of the plan or amendment. In some instances, local governments may be unable to reach agreement due to other state laws or competing public policy objectives. Pursuant to Government Code §65352.3 and §65352.4, consultation is considered concluded at the point in which: the parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or either the local government or tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning appropriate measures of preservation or mitigation. Regardless of the outcome of consultation, the CEQA document must disclose significant impacts on tribal cultural resources and discuss feasible alternatives or mitigation that avoid or lessen the impact. Consultation with the Gabrieleno Tribe concluded on July 2, 2021, with mutually acceptable mitigation measures.

Local

City of Brea General Plan

The community development element of the Brea General Plan provides goals and policies on the preservation of historic resources in the city.

5.12.1.2 EXISTING CONDITIONS

A sacred lands file search conducted by the NAHC for the project site did not identify any sacred lands. The NAHC identified 13 local Native American tribes as potentially having local knowledge.

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- Campo Band of Diegueno Mission Indians
- Ewiiapaayp Band of Kumeyaay Indians
- Gabrieleno Band of Mission Indians – Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Gabrielino/Tongva Nation
- Gabrielino Tongva Indians of California Tribal Council
- Gabrielino-Tongva Tribe
- Juaneño Band of Mission Indians Acjachemen Nation – Belardes
- La Posta Band of Diegueno Mission Indians
- Manzanita Band of Kumeyaay Nation
- Mesa Grande Band of Diegueno Mission Indians
- Soboba Band of Luiseño Indians
- Sycuan Band of the Kumeyaay Nation

The City notified all 13 tribal representatives about the proposed project and asked for information about potential resources at or near the project site. Responses were received from the Gabrieleno Band of Mission Indians–Kizh Nation, Juaneño Band of Mission Indians Acjachemen Nation-Belardes, Agua Caliente Band of Cahuilla Indians, and Rincon Band of Luiseño Indians.

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:

- TCR-1 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

5.12.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for tribal cultural resources are identified below.

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PPP TCR-1 Pursuant to California Health and Safety Code Section 7050.5, if human remains are discovered on the project site, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation. 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 the NAHC by telephone within 24 hours.

5.12.4 Environmental Impacts

Impact 5.12-1: The proposed project would cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency to be significant pursuant to criteria in Public Resources Code Section 5020.1(k). [Threshold TCR-1]

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 tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process.

Effective July 1, 2015, AB 52 added TCRs as a resource subject to review under CEQA. AB 52 requires meaningful consultation between lead agencies and California Native American tribes on potential impacts to TCRs, as defined in PRC Section 21074. A TCR is a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe that is either in or eligible for inclusion in the California Register of Historical Resources or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC §§ 21074[a][1] to [2]).

TCRs may be found throughout Orange County, but information about them is much more difficult to obtain than for most archaeological resources. Currently, there is no database of such resources, and most cannot be identified by surveying the land. Identification of TCRs requires coordination with Native American tribes, and their precise location is often difficult to determine because they may only be documented through oral history.

Sacred Lands File Search

The project site is developed and is surrounded by developed uses. The NAHC's Sacred Lands File record search found no tribal resources on the project site.

SB 18 and AB 52

In accordance with SB 18 and AB 52, on July 9, 2020, the City notified local tribes about the proposed project to determine the potential for tribal cultural resources on-site and to determine if local knowledge of TCRs is available about the project site and surrounding area. The City notified the tribes identified by the NAHC pursuant to SB 18 as well as the tribes that, pursuant to AB 52, requested to be notified of all future projects in the city. The following tribes responded:

- **Gabrieleno Band of Mission Indians–Kizh Nation.** The tribe requested consultation because the project site is within the tribe's ancestral tribal territory. The tribe provided a list of mitigation measures and requested a Native American monitor/consultant to be present.

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- **Juaneño Band of Mission Indians Acjachemen Nation–Belardes.** The tribe requested consultation and requested responses to several questions, including when the structure was built that is proposed for demolition, and what were the results of the Sacred Lands file search and California Historic Resources Information search. The City responded to the tribe’s email, and on August 4, 2020, the tribe indicated that consultation was not necessary.
- **Rincon Band of Luiseño Indians.** The tribe stated that it did not have additional information to provide because the project site is not within the tribe’s specific area of historic interest.
- **Agua Caliente Band of Cahuilla Indians.** The tribe stated that the proposed project is not within their Traditional Use Area and concluded consultation.

Based on the records search; previous disturbance associated with the project site, which is currently developed with a shopping center; and the surrounding commercial and residential development, the potential to uncover tribal cultural resources for the site is low. However, because the proposed project would require trenching and other ground-disturbing activities for construction, there is potential to uncover TCRs during ground-disturbing activities.

Ground-disturbing activities, such as trenching and grading, may encounter undisturbed native soils, and it is possible that subsurface TCRs could be discovered. The disturbance of these TCRs could cause a substantial adverse change in the significance of the resource(s) if not mitigated.

Level of Significance Before Mitigation: Potentially Significant.

5.12.5 Cumulative Impacts

As with the proposed project, each related cumulative project would be required to comply with AB 52 and PRC Section 21083.2(i), which addresses accidental discoveries of archaeological sites and resources, including tribal cultural resources; therefore, any discoveries of TCRs caused by the project or related projects would be mitigated to a less than significant level. Therefore, project impacts would not be cumulatively considerable.

5.12.6 Level of Significance Before Mitigation

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

- **Impact 5.12-1** Project implementation could result in an adverse change in Native American resources during construction activities.

5.12.7 Mitigation Measures

Impact 5.12-1

Mitigation Measure CUL-1 in Section 5.3, *Cultural and Paleontological Resources*, also reduces impacts to TCR. In addition, the following mitigation measures are specific to potential TCR impacts of the proposed project.

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TCR-1 Prior to the commencement of any ground disturbing activity at the project site, the project applicant shall retain a Native American Monitor approved by the Gabrieleno Band of Mission Indians-Kizh Nation—the tribe that consulted on this project pursuant to Assembly Bill 52 (the “Tribe” or the “Consulting Tribe”)—and in concurrence with the City of Brea as the CEQA lead agency. A copy of the executed contract shall be submitted to the City of Brea Planning and Building Department prior to the issuance of any permit necessary to commence a ground-disturbing activity.

- The Tribal monitor shall only be present on-site during the construction phases that involve ground-disturbing activities. Ground disturbing activities are defined by the Tribe as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, rading, excavation, drilling, and renching, within the project area.
- The Tribal Monitor shall complete daily monitoring logs that provide descriptions of the day’s activities, including construction activities, locations, soil, and any cultural materials identified.
- The on-site monitoring shall be concluded when all ground-disturbing activities on the project site are completed, or when the Tribal Representatives and Tribal Monitor have indicated that all upcoming ground-disturbing activities at the project site have little to no potential for impacting Tribal Cultural Resources.

TCR-2 If tribal cultural resources are inadvertently discovered during ground disturbing activities for this project. The following procedures will be carried out for treatment and disposition of the discoveries:

- Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed.
- All Tribal Cultural Resources unearthed by project activities shall be evaluated by the qualified archaeologist and Tribal monitor approved by the Consulting Tribe. If the resources are Native American in origin, the Consulting Tribe will retain it/them in the form and/or manner the Tribe deems appropriate, for educational, cultural and/or historic purposes.
- If human remains and/or grave goods are discovered or recognized at the Project Site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).
- Work may continue on other parts of the Project Site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). If a non-Native American

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resource is determined by the qualified archaeologist to constitute a “historical resource” or “unique archaeological resource,” time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and PRC Sections 21083.2(b) for unique archaeological resources.

- Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.

5.12.8 Level of Significance After Mitigation

Impact 5.12-1

Because the proposed project would require trenching and other ground-disturbing activities for construction, there is potential to uncover TCRs during ground-disturbing activities. Mitigation Measures CUL-1, TCR-1, and TCR-2 would reduce potential impacts associated with tribal cultural resources to a level that is less than significant. Mitigation Measure TCR-1 would require the project applicant to enter into a Tribal Cultural Resources Treatment and Monitoring Agreement with each Tribe, and TCR-2 would require temporary curation and storage for the treatment and disposition of the discoveries. In accordance with Mitigation Measure CUL-1, resources recovered would require additional work such as data recovery and would be reported to the City. Therefore, no significant unavoidable adverse impacts relating to tribal cultural resources remain.

5.12.9 References

Native American Heritage Commission (NAHC). 2020, June 10. Native American Heritage Commission Tribal Consultation Correspondence and Tribal Consultation List, Orange County.

5. Environmental Analysis

5.13 UTILITIES AND SERVICE SYSTEMS

This section of the Draft Environmental Impact Report (DEIR) addresses the potential for implementation of the Brea Plaza Expansion Project (proposed project) to impact utilities and service systems in the City of Brea. Utilities and service systems include water supply and distribution systems; wastewater (sewage) conveyance and treatment; storm drainage systems; solid waste collection and disposal services; and other public utilities. Impacts to hydrology (e.g., flooding) and water quality can be found in Section 8.5, *Hydrology and Water Quality*. Cumulative impacts are based on the service area of the utilities: Orange County Sanitation District (OCSA), City of Brea Water Utility, Orange County Flood Control District, and Orange County Waste and Recycling. The analysis in this section is based in part on the following technical studies:

- *Sewer Study*, C.A. Engineering, June 22, 2021
- *Preliminary Hydrology Calculations*, C.A. Engineering, July 27, 2021
- *Preliminary Water Quality Management Plan*, C.A. Engineering, July 27, 2021

Complete copies of these studies are included in this DEIR as Appendices G, H, and I, respectively.

5.13.1 Wastewater Treatment and Collection

5.13.1.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Clean Water Act and National Pollution Elimination Discharge System

The federal Clean Water Act requires that wastewater be treated before it is discharged to Waters of the United States (US Code Title 33, Sections 1251 et seq.). Requirements for waste discharges from publicly owned treatment works to navigable waters are addressed in National Pollution Elimination Discharge Systems (NPDES) regulations under the Clean Water Act. NPDES permits for such discharges in the project region are issued by the Santa Ana Regional Water Quality Control Board.

Regional

Impacts Fees

The City of Brea collects sanitary sewer connection fees on behalf of the County of Orange at issuance of building permits. The capital facilities capacity charge per land use is as follows:

- Commercial-Industrial (per 1,000 square feet)
 - Low demand – \$335.00
 - Average demand – \$2,082.00
 - High demand – \$4,947.00

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- Multifamily Residential (per unit)
 - 4+ bedrooms – \$5,371.00
 - 3 bedrooms – \$4,426.00
 - 2 bedrooms – \$3,482.00
 - 1 bedroom – \$2,486.00
 - Studio – \$1,591.00

Local

2005 Sewer Master Plan

The City of Brea's Sewer Master Plan evaluates the capacity of the entire system and identifies the capital improvement program that will provide the needed capacity in accordance with its criteria. The Master Plan also includes condition assessment of 91 percent of the system based on inspections conducted in 1999 through 2001, and formulates rehabilitation and replacement projects that would eliminate the condition deficiencies in the system. The recommendations of these evaluations are combined into a comprehensive capital improvement program that is presented in the Master Plan.

2016 Sewer System Management Plan

The Sewer System Management Plan was prepared in compliance with order 2006-0003-DWQ issued by the State Water Resources Control Board. The order requires every owner and operator of a publicly owned sewer system to develop and implement a system-specific Sewer System Management Plan. This plan sets goals, the actions needed to reach them, and guidelines for various activities involved in managing, operating, maintaining, repairing, replacing, and expanding the sewer system.

Impact Fees

The City of Brea requires sanitary sewer connection fees based on the fixtures installed:

- Bidet, dental units, showers gang per head, sink (bar, floor), washbasin (lavatory): \$5 per fixture
- Bathtub, floor drain, laundry tub or washer, shower, sink (bar commercial/kitchen/service), urinal (pedestal/stall), wash basin (set, double lavatory): \$10 per fixture
- Interceptors (grease/oil/solids, sand, auto wash, etc.), laundry tub or washer (self-serve), receptors, sink (flushing rim), swimming pool: \$15 per fixture
- Urinal wall trough, water closet (toilet): \$20 per fixture
- Mobile home park (each pad): \$90

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UTILITIES AND SERVICE SYSTEM

Existing Conditions

Wastewater Flows

The City's existing wastewater collection system is made up of a network of gravity sewers and one sewer pump station (Brea 2005). The gravity system consists of approximately 110 miles of pipe and 2,650 sewer mains (i.e., manholes). The majority of the gravity sewers are constructed of vitrified clay pipe with sizes ranging from 8 inches to 27 inches in diameter. The sewer system service area consists of 10 major sewer "sheds," which are areas of land where all the sewers drain to City trunk sewers, which in turn, outlet to OCSD facilities.

The hydraulic analysis of the existing sewers with peak wet weather flows indicated capacity deficiency in a total of 7,450 feet of pipe in three drainage regions:

- **Fullerton Drainage Region:** 6,096 feet of 8-inch to 12-inch sewers along Brea Creek Channel, Brea Municipal Golf Course, Berry Street, Imperial Highway, and Arovista Park.
- **Laurel Drainage Region:** 822 feet of 8-inch diameter sewers in Cherry Street and Alder Street.
- **Rolling Hills Drainage Region:** 523 feet of 8-inch and 10-inch diameter sewers in Lambert Road/State College Boulevard, and Randolph Avenue north, across, and south of Imperial Highway.

Table 5.13-1, *Existing Wastewater Flows by Drainage Region*, shows a summary of the calculated existing (2005) wastewater flows generated by each drainage region.

Table 5.13-1 Existing Wastewater Flows by Drainage Region

Region Number	Region Name	Average Dry Weather Flow (mgd)	Peak Dry Weather Flow (mgd)	Inflow/Infiltration (mgd)	Peak Wet Weather Flow (mgd)
1	Imperial	0.932	1.666	0.417	2.083
2	Fullerton	1.448	2.498	0.625	3.123
3	Brea	0.195	0.395	0.099	0.494
4	Laurel	0.210	0.422	0.106	0.528
5	Rolling Hills	1.124	1.979	0.465	2.474
6	Associated	0.662	1.215	0.304	1.519
7	Cypress	0.059	0.131	0.033	0.164
8	Kraemer	0.477	0.900	0.225	1.125
9	Valencia	0.143	0.297	0.074	0.371
10	Carbon Canyon	0.223	0.446	0.112	0.558
City Total		5.473	9.949	2.49	12.439

Source: Brea 2005.

mgd = million gallons per day

According to the Sewer Master Plan, the following development projects were reviewed during the course of the study: Birch Hills, Brea Highlands, Brea Sports Park, Brea Towne Plaza, Carbon Canyon, Canyon Crest,

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and Tonner Canyon (Brea 2005). Table 5.13-2, *Ultimate Wastewater Flows by Drainage Region*, summarizes the calculated ultimate wastewater flows expected to be generated by each drainage region.

Table 5.13-2 Ultimate Wastewater Flows by Drainage Region

Region Number	Region Name	Average Dry Weather Flow (mgd)	Peak Dry Weather Flow (mgd)	Inflow/Infiltration (mgd)	Peak Wet Weather Flow (mgd)
1	Imperial	1.154	2.027	0.507	2.534
2	Fullerton	1.851	3.130	0.783	3.913
3	Brea	0.233	0.465	0.116	0.581
4	Laurel	0.219	0.439	0.110	0.549
5	Rolling Hills	1.268	2.211	0.553	2.764
6	Associated	0.776	1.407	0.352	1.759
7	Cypress	0.207	0.418	0.105	0.523
8	Kraemer	0.995	1.768	0.442	2.210
9	Valencia	0.445	0.843	0.211	1.054
10	Carbon Canyon	0.934	1.668	0.417	2.085
City Total		8.082	14.376	5.96	17.972

Source: Brea 2005.
mgd = million gallons per day

Analyses of the collection system main-line sewers showed ultimate capacity deficiencies in a total of 22,924 feet of pipe in six drainage regions:

- **Imperial Drainage Region:** 868 feet of 8-inch diameter sewers in Walling Avenue, Central Avenue, Sky Lake Avenue, and Village Lake Avenue.
- **Fullerton Drainage Region:** 11,025 feet of 8-inch to 15-inch sewers and 27-inch creek crossing in Brea Boulevard, Pepper Tree Drive, along Brea Creek Channel, Brea Municipal Golf Course, Berry Street, Imperial Highway, and Arovista Park. A total of 6,096 feet of these sewers were also deficient under the existing conditions.
- **Laurel Drainage Region:** 822 feet of 8-inch sewers in Alder Street and Cherry Street. These sewers were also deficient under the existing conditions.
- **Rolling Hills Drainage:** 594 feet of 8-inch to 12-inch sewers in Lambert Road at State College Boulevard, and Randolph Avenue at Imperial Highway. A total of 532 feet of these sewers were also deficient under the existing conditions.
- **Valencia Drainage Region:** 3,152 feet of 8-inch pipe in Vesuvius Drive, an easement west of Tolbert Drive, and Elm Street.
- **Carbon Canyon Drainage Region:** 6,461 feet of 8-inch to 10-foot pipe in Carbon Canyon Road and easements south of Carbon Canyon Road.

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According to the 2016 Sewer System Management Plan, the Brea Plaza Shopping Center is in drainage regions 3 through 6 (Brea 2016).

Pump Stations

The City owns and maintains two pump stations, both in the Fullerton Drainage Region:

- **Briarwood Pump Station** is on Briarwood Drive in the southwest corner of the city. It is a submersible pump station that serves 11 homes. Three homes are on South Puente Street just north of Briarwood Drive, and eight homes are along Briarwood Drive just west of South Puente Street. The pumps are housed within a 5-foot-diameter sewer main. The sewage is discharged through a 4-inch-diameter cast iron force main. The alarm system for this facility consists of a flashing red light that indicates a high level or pump failure. Local residents call Brea Police and Fire Dispatch to notify the City of an alarm at this station (Brea 2016).
- **Arovista Park Pump Station** is a submersible pump station built in 2005. It relieves a deficient 15-inch-diameter sewer in the Fullerton Drainage Region. It lifts the portion of the wastewater that exceeds the capacity of the existing 15-inch sewer along the west side of the Brea Creek Channel into a new 15-inch relief sewer at a higher elevation in Mulberry Avenue, Acacia Street, Walnut Avenue, and Juniper Street to a connection to OCSD's Fullerton-Brea Interceptor (Brea 2016).

In addition to the Briarwood and Arovista Pump Stations, the La Foresta Pump Station, in the southeast portion of the city, serves approximately 647 homes. It is equipped with two submersible vortex pumps that are housed in an 8-foot-square by 28-foot-deep wet well. Effluent from the lift station is discharged through a 6-inch force main. The lift station is equipped with an 80-kilowatt sound-attenuated diesel-driven generator and automatic transfer switch. Ownership of the lift station has not yet been formally transferred to the City. However, the lift station is currently in operation and flows discharge to the City sewer system. The lift station is equipped with an alarm to send warnings of high levels to the cell phones of City sewer operations supervisors (Brea 2016).

Orange County Sanitation District

OCSD provides wastewater collection, treatment, and recycling for approximately 2.6 million people living within a 479-square-mile area of central and northwestern Orange County (OCSD 2019). OCSD's facilities include 389 miles of sewer pipes and 15 pump stations throughout the county. Approximately 185 million gallons per day (mgd) of wastewater is treated at two treatment plants: Plant No. 1 in Fountain Valley and Plant No. 2 in Huntington Beach.

OCSD is currently replacing four miles of sewer along State College Boulevard from State Route 91 to Orangewood Avenue in the City of Anaheim. Construction began in late summer 2018 and is scheduled to be completed in spring 2021. Once the project is complete, eight million gallons of wastewater will be diverted to OCSD's Plant No. 1 in Fountain Valley for treatment before being sent to the Groundwater Replenishment System. This is Phase B of a two-phase project; Phase A of the sewer replacement was completed in 2017 from Yorba Linda Boulevard to SR-91 in the City of Fullerton (OCSD 2020).

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5.13.1.2 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:

- U-1 Would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- U-2 Would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- U-5 Would result in a determination by the wastewater treatment provider which serves or may serve the project that has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

5.13.1.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for utilities and service systems are identified below.

- PPP USS-1 The project will pay the Sanitary Sewer Connection Fees collected by the City of Brea, which contribute to maintenance and installation of sewer improvements in the OCSD in accordance with Section 3.32.040, Sewer Service Fees and Charges, of the Brea Municipal Code.

5.13.1.4 ENVIRONMENTAL IMPACTS

Impact 5.13-1: Project-generated wastewater could be adequately treated by the wastewater service provider for the project. [Thresholds U-1, U-2 (part), and U-5]

According to the Sewer Study (see Appendix G), Brea Plaza currently produces a total of 75,446 gallons per day (gpd) of wastewater at the site. The existing theater, which produces 9,450 gpd of wastewater, would be demolished. The proposed apartment and office uses would generate 49,660 gpd (see Table 5.13-3, *Net Increase in Average Dry Weather Proposed Wastewater Flow Rates*). Upon project completion, the total estimated wastewater generation at the site would be 114,845 gpd. The existing sewer lines would be used to convey flows from the existing and proposed buildings. The flows are directed southerly where they combine with flows from the surrounding areas at the Imperial Avenue manhole (C.A. Engineering 2021c).

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UTILITIES AND SERVICE SYSTEM**Table 5.13-3 Net Increase in Average Dry Weather Proposed Wastewater Flow Rates**

Apartments					
Floor/Level	Type	DU	Unit Flow Factor	gpd ¹	cfs
3-7	Units	229	210 gpd/du	48,090	0.075
Office					
Floor/Level	Type	Area (SF)	Unit Flow Factor	gpd	cfs
1-5	Offices	21,355	73.5 gpd/tsf	1,570	0.002
Total Apartment and Office				49,660	0.077
Movie Theater					
Floor/Level	Type	Seats	Unit Flow Factor	gpd ¹	cfs
1-2	Theater	1,125	8.4 gpd/seat	-9,450	-0.015
Net Increase				40,210	0.062

Source: C.A. Engineering 2021c (see Appendix G)

Notes: gpd: gallons per day; cfs: cubic feet per second, du: dwelling unit; SF: square feet; tsf: thousand square feet

¹ Sewer flows are based on the City of Brea Design Standards. The design standards overestimate actual wastewater flows generated by land uses in order to estimate the sizing of the infrastructure necessary to handle sewer flows from those land uses.**Sewer Line Capacity**

Table 5.13-4, *Existing and Proposed Flow Rate Conversion*, shows that the existing flow rates at the project site, including the surrounding area (residences, offices, commercial land use, and school), are 568,262 gpd, and that the proposed project would add an additional 40,210 gpd to the existing sewer system.

Table 5.13-4 Existing and Proposed Flow Rate Conversion

EXISTING		
Flow Rates	gpd	cfs
Average Dry Weather	568,262	0.88
Peak Dry Weather	—	1.63
Peak Wet Weather	—	2.04
PROPOSED		
Flow Rates	gpd	cfs
Average Dry Weather	40,210	0.062
Peak Dry Weather	—	0.143
Peak Wet Weather	—	0.179

Source: C.A. Engineering 2021c.

Notes: gpd: gallons per day; cfs: cubic feet per second

The existing sewer lines would be used to convey flows from the existing and proposed uses on-site. The flows are directed southerly to the Imperial Avenue manhole, where they combine with flows from the surrounding areas. Under the peak dry weather conditions, the proposed flow depth to pipe diameter ratio of 0.49 is below the 0.64 design limit for the existing 8-inch and 12-inch sewer pipes, and under the peak wet weather conditions, the proposed flow depth to pipe diameter ratio of 0.55 is below the 0.75 design limit for the existing 8-inch and 12-inch sewer pipes (C.A. Engineering 2021c). Therefore, all the existing sewer lines have adequate capacity to convey the proposed project's wastewater flows in addition to existing flow, and impacts are less than significant.

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OCSD Wastewater Treatment Capacity

The additional sewer flows would be treated at OCSD's treatment plants, which treat a total of 185 mgd. The proposed project's additional sewer flows would be less than 1 percent of the City's total average dry weather flow of 8.082 mgd and would represent less than 0.1 percent of the total daily flows of 185 mgd treated at OCSD's treatment plants. There is adequate residual wastewater treatment capacity in the region for the wastewater generated by the proposed project.

Furthermore, the City collects sewer charges to support the operations of the sewer system and needed capital improvements identified in the Sewer Master Plan. The Sewer Master Plan identified \$15 million in citywide sewer improvements needed over the next 20 years (Brea 2021a). On behalf of the County of Orange, the City of Brea collects Sanitary Sewer Connection fees at the issuance of building permits, which the project applicant would be required to pay, to upgrade and maintain the sewer system. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant.

5.13.1.5 CUMULATIVE IMPACTS

Wastewater Treatment Capacity Impacts

The area considered for cumulative impacts to sewage services is OCSD, which serves 2.6 million people. The proposed project would be less than 1 percent of the City's total average dry weather flow of 8.082 mgd, and it is expected that with both treatment plants and the secondary treatment capacity of Plant No. 1, OCSD would have adequate wastewater treatment capacity for wastewater generation by cumulative developments in its service area. No significant cumulative impact is anticipated, and buildout of the proposed project would not contribute to a significant cumulative impact.

Sewer Line Impacts

Implementation of individual projects would require project-specific analyses during final design to evaluate sewer capacities related to the individual project. For regional impacts to OCSD facilities, individual projects would pay Capital Facilities Fee Charges to the OCSD; such fees would reduce cumulative impacts to sewers. Costs for installing and upgrading City of Brea sewers are paid from sewer service fees, and on-site improvements would be implemented as part of the proposed project. Therefore, payment of OCSD and City sewer fees would also reduce cumulative impacts to sewers. No cumulatively considerable impact to sewers would occur, and proposed project buildout would not contribute to such an impact.

5.13.1.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.13-1 would be less than significant.

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5.13.1.7 MITIGATION MEASURES

No mitigation measures are required.

5.13.1.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.13.2 Water Supply and Distribution Systems

5.13.2.1 ENVIRONMENTAL SETTING

Regulatory Background

State

20 x 2020 Water Conservation Plan

The 20 x 2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed “SBX7-7.” SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20 x 2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

Senate Bills 610 and 221

To assist water suppliers, cities, and counties in integrating water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers, cities, and counties. Both require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. This detailed information must be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. The statutes recognized local control and decision making regarding the availability of water for projects and the approval of projects. Future projects subject to SB 610 and SB 221 are required to provide a water supply assessment. Under SB 610, water supply assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA, as defined in Water Code Section 10912[a]. Under SB 221, approval by a city or county of certain types of residential subdivision requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe to ensure collaboration on finding the needed water supplies to serve a new large subdivision before construction begins. Because the proposed mixed use project has less than 500 dwelling units and less than 250,000 square feet of commercial office space, a water supply assessment is not required.

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Urban Water Management Planning Act

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires preparation of a plan that:

- Plans for water supply and assesses reliability of each source of water over a 20-year period, in 5-year increments.
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (SBX7-7), which amends the act and adds new water conservation provisions to the Water Code.

The Urban Water Management Plan Act states that every urban water supplier that provides water to 3,000 or more customers or provides over 3,000 acre-feet of water per year (afy) should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple-dry years. Both SB 610 and SB 221 identify the urban water management plan (UWMP) as a planning document that can be used by a water supplier to meet the standards in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these statutes, and they are important source documents for cities and counties as they update their general plans. Conversely, general plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent.

Principles Governing CEQA Analysis of Water Supply

In *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (February 1, 2007), the California Supreme Court articulated the following principles for analysis of future water supplies for projects subject to CEQA:

- To meet CEQA's informational purposes, the EIR must present sufficient facts to decision makers to evaluate the pros and cons of supplying the necessary amount of water to the project.
- CEQA analysis for large, multiphase projects must assume that all phases of the project will eventually be built, and the EIR must analyze, to the extent reasonably possible, the impacts of providing water to the entire project. Tiering cannot be used to defer water supply analysis until future phases of the project are built.
- CEQA analysis cannot rely on "paper water." The EIR must discuss why the identified water should reasonably be expected to be available. Future water supplies must be likely rather than speculative.
- When there is some uncertainty regarding future availability of water, an EIR should acknowledge the degree of uncertainty, include a discussion of possible alternative sources, and identify the environmental impacts of such alternative sources. Where a full discussion still leaves some uncertainty about long-term

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water supply, mitigation measures for curtailing future development in the event that intended sources become unavailable may become a part of the EIR's approach.

- The EIR does not need to show that water supplies are definitely ensured, because such a degree of certainty would be “unworkable, as it would require water planning to far outpace land use planning.” The requisite degree of certainty of a project's water supply varies with the stage of project approval. CEQA does not require large projects, at the early planning phase, to provide a high degree of certainty regarding long-term future water supplies.
- The EIR analysis may rely on existing urban water management plans, as long as the project's demand was included in the water management plan's demand accounting.
- The ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project.

Local

2009 Water Master Plan

The City of Brea's 2009 Water Master Plan focuses on the existing distribution system and existing water demand. Future demand was not addressed in the study. The general scope of services for the 2009 Water Master Plan included updating the computer model of the City's water distribution system (pipes, pumps, tanks, pressure controls, etc.) and verifying the model against previous model results. The model was used to investigate current problems, issues, or concerns of City staff involved in the operation of the water system. The investigation resulted in development of recommended improvements, for which project costs were provided (Brea 2009).

City of Brea Urban Water Management Plan

2020 Urban Water Management Plan

The City of Brea's 2020 UWMP was adopted on June 2, 2021, and provides an assessment of the present and future water supply sources and demands within the City's service area, and an update to the City's water resource needs, water use efficiency programs, water reliability assessment, and strategies to mitigate water shortage conditions (Brea 2021b). Water demand in the City of Brea is likely to increase 4.5 percent over the next five years. In the longer term, water demand is projected to increase 2.1 percent from 2025 through 2045. The projected potable water use for 2045 is 9,745 acre-feet (af). In fiscal year 2019-2020, the City relied on 99 percent imported water from California Domestic Water Company and 1 percent local groundwater. The UWMP projects that by 2045, the water supply portfolio will shift to 92.5 percent imported water from California Domestic Water Company, 6.5 percent imported water from Municipal Water District of Orange County (MWDOC), and 1 percent groundwater, which matches the projected demand. The City can purchase more MET water (regional wholesaler for Southern California and direct supplier of imported water to MWDOC) through MWDOC should the need arise. Brea's 2020 UWMP concluded there was an adequate and reliable supply of water to provide for existing demand and estimated growth through the year 2045 for

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normal years, single dry years, and multiple dry years due to diversified supply and conservation measures (Brea 2021b).

Water Shortage Contingency Plan

The 2020 UWMP also presents a new 2020 Water Shortage Contingency Plan (WSCP) designed to prepare for and respond to water shortages, that is, when the water supply available is insufficient to meet the normally expected customer water use at a given point in time. A water shortage may occur due to a number of reasons, such as drought, climate change, and catastrophic events. The City's WSCP is the operating manual that is used to prevent catastrophic service disruptions through proactive management. The WSCP includes standardized action levels along with implementation actions to identify and efficiently implement steps to manage a water shortage. The WSCP will be submitted to DWR by July 1, 2021 (Brea 2021c).

Per Water Code Section 10632 (a)(3)(A), the City must include the six standard water shortage levels from the normal reliability, as determined by an annual assessment of water demand and supply. The six standard water shortage levels (see Table 5.13-5, *Water Shortage Contingency Plan Levels*) correspond to progressively increasing estimated shortage conditions and align with the response actions the supplier would implement to meet the severity of the impending shortages.

Table 5.13-5 Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions
0	0% (Normal)	A Level 0 Water Supply Shortage condition exists when the City of Brea notifies its water users that no supply reductions are anticipated in this year. The City of Brea proceeds with planned water efficiency best practices to support consumer demand reduction in line with state-mandated requirements and local City of Brea goals for water supply reliability. Permanent water waste prohibitions are in place as stipulated in the City of Brea's Water Shortage Contingency Response Ordinance 1221.
1	Up to 10%	A Level 1 Water Supply Shortage condition exists when the City of Brea notifies its water users that due to drought, supply reductions, or the City wants to continue conserve to promote conservation, a consumer demand reduction of up to 10 percent is necessary to make more efficient use of water and respond to existing water conditions. The City of Brea shall implement the mandatory Level 1 conservation measures identified in this WSCP. The type of event that may prompt the City of Brea to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that its wholesale water provider calls for extraordinary water conservation.
2	11% to 20%	A Level 2 Water Supply Shortage condition exists when the City of Brea notifies its water users that due to drought, supply reductions, or the City wants to continue conserve to promote conservation, a consumer demand reduction of up to 20 percent is necessary to make more efficient use of water and respond to existing water conditions. The City of Brea shall implement the mandatory Level 2 conservation measures identified in this WSCP. The type of event that may prompt the City of Brea to declare a Level 2 Water Supply Shortage may include, among other factors, a finding that its wholesale water provider calls for extraordinary water conservation.
3	21% to 30%	A Level 3 Water Supply Shortage condition exists when the City of Brea declares a water shortage emergency condition pursuant to California Water Code Section 350 and notifies its residents and businesses that up to 30 percent consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation, and fire protection. The City of Brea must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code Section 350.

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Table 5.13-5 Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions
4	31% to 40%	A Level 4 Water Supply Shortage condition exists when the City of Brea declares a water shortage emergency condition pursuant to California Water Code Section 350 and notifies its residents and businesses that up to 40 percent consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation, and fire protection. The City of Brea must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code Section 350.
5	41% to 50%	A Level 5 Water Supply Shortage condition exists when the City of Brea declares a water shortage emergency condition pursuant to California Water Code Section 350 and notifies its residents and businesses that up to 50 percent or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation, and fire protection. The City of Brea must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code Section 350.
6	>50%	A Level 6 Water Supply Shortage condition exists when the City of Brea declares a water shortage emergency condition pursuant to California Water Code Section 350 and notifies its residents and businesses that more than 50 percent consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation, and fire protection. The City of Brea must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code Section 350.

Source: Brea 2021c.

Municipal Code

Water Conservation

Chapter 13.20, Water Management Program, of the City's municipal code establishes a water conservation and supply shortage program that would reduce water consumption in the City through conservation, enable effective water supply planning, ensure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water in the city to avoid and minimize the effect and hardship of water shortage to the greatest extent possible. The municipal code also establishes permanent water conservation standards intended to alter behavior related to water use efficiency for nonshortage conditions, and further establishes three phases of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

Water Impact Fees

In July 1995, the Brea City Council adopted Ordinance 967, establishing water impact fees for certain new development projects in Brea and annexed portions of its sphere of influence. In March 2003, the Brea City Council adopted an updated Water Master Plan. Water impact fees were modified according to the updated plan. The fees are necessary to ensure that adequate water infrastructure and facilities are provided to new development projects. The amount of fee per dwelling unit varies depending upon a project's geographical location and elevation.

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All new development projects are subject to the Water Impact Fees, except:

- Alterations to an existing building.
- Reconstruction (within two years) when a building has been destroyed by fire, wind, earthquakes, vandalism, or other natural or man-made disasters.
- Additions to a single-family or multiple-family residence and construction of public schools.

Therefore, the proposed project is subject to the water impact fees prior to the issuance of any building permits. In some cases, a developer may be required to make certain water improvements in addition to or in lieu of paying water impact fees. In this case, however, the total cost of water improvements and/or fees would not exceed the development's fair share of providing the water infrastructure or facilities.

Water Connection Fees

Water connection fees are applicable to all new construction, with the charge payable at the time the building permit is issued. This shall apply to each dwelling unit, apartment, mobile home or trailer space, or commercial or industrial water user to be served from the same meter whether constructed at the same time or added onto the existing property.

- \$3,114 per 1-inch water meter
- \$10,456 per 2-inch water meter

Existing Conditions

The City of Brea owns and operates its potable water system providing service to residential, commercial, industrial, and agricultural customers within the city's boundaries and the city's sphere of influence (Brea 2009). The water system supplies water imported from the MWDOC and California Domestic Water Company to over 13,000 water connections (Brea 2020). The City operates 7 storage distribution reservoirs with a combined storage capacity of 69.5 million gallons, 5 booster pump stations with a total pumping capacity of approximately 14,800 gpm, 97 pressure-reducing stations to regulate 18 pressure zones, an irrigation well, 4 connections with Metropolitan Water District of Southern California and California Domestic Water Company, 5 emergency interconnections with neighboring water purveyors, and 228.3 miles of water mains with approximately 13,821 service connections (Brea 2021b).

In the past decade, the City's annual average water demand was 9,956 af. The City's total water demand in fiscal year 2019-2020 for potable water was 9,131 af, where residential water use accounted for 51.2 percent; commercial, institutional, and industrial accounted for 28.7 percent; large landscape/irrigation accounted for 15 percent; and nonrevenue water and other uses accounted for 5 percent of the city's water demands (Brea 2021b). Table 5.13-6, *Water Supply and Demand Comparison*, shows the project water supply and demand totals for normal, single dry, and multiple dry years from 2020 to 2045.

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Table 5.13-6 Water Supply and Demand Comparison

	2025	2030	2035	2040	2045
Normal Year (afy)					
Supply Totals	9,543	9,695	9,691	9,725	9,745
Demand Totals	9,543	9,695	9,691	9,725	9,745
Single Dry Years (afy)					
Supply Totals	10,115	10,277	10,272	10,309	10,330
Demand Totals	10,115	10,277	10,272	10,309	10,330
Multiple Dry Years (afy) – First Year					
Supply Totals	9,766	10,147	10,276	10,279	10,313
Demand Totals	9,766	10,147	10,276	10,279	10,313
Multiple Dry Years (afy) – Second Year					
Supply Totals	9,854	10,180	10,275	10,287	10,317
Demand Totals	9,854	10,180	10,275	10,287	10,317
Multiple Dry Years (afy) – Third Year					
Supply Totals	9,941	10,212	10,274	10,294	10,322
Demand Totals	9,941	10,212	10,274	10,294	10,322
Multiple Dry Years (afy) – Fourth Year					
Supply Totals	10,028	10,244	10,273	10,302	10,326
Demand Totals	10,028	10,244	10,273	10,302	10,326
Multiple Dry Years (afy) – Fifth Year					
Supply Totals	10,115	10,277	10,272	10,309	10,330
Demand Totals	10,115	10,277	10,272	10,309	10,330

Source: Brea 2021b.
Notes: afy: acre-feet per year

5.13.2.2 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:

- U-2 Would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- U-4 Would not have sufficient water supplies available to serve the project from existing entitlements and resources, and new and/or expanded entitlements would be needed.

5.13.2.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for utilities and service systems, are identified below.

- PPP USS-2 The project will pay the water impact fees and water connection fees collected by the City of Brea, which covers costs to purchase water supplies and to operate and maintain the water distribution system in accordance with Ordinance 967.

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- PPP USS-3 Landscaping installed on-site shall conform to the California Green Building Standards Code and Water Efficient Landscape Ordinance requirements to increase landscape water efficiency.
- PPP USS-4 Plumbing fixtures installed on-site shall conform to California Green Building Standards Code requirements to increase water efficiency and reduce urban per capita water demand.
- PPP USS-5 The project would comply with the City's water conservation program during a drought or emergency situation, in accordance with Chapter 13.20, Water Management Program, of the City's Municipal Code.

5.13.2.4 ENVIRONMENTAL IMPACTS

Methodology

Interior water use for the proposed project is calculated based on the parameters provided in the Sewer Study (see Appendix G). Typically, the amount of wastewater generated by a project is 90 percent of the indoor water use. Therefore, to determine the amount of indoor water used by the project, the amount of wastewater generated by the project was divided by a factor of 0.90. This is conservative because the wastewater generation factors from the sewer study do not account for a reduction in indoor water use for new construction that complies with CALGreen standards and water conservation features. Outdoor water use is based on the Department of Water Resources' (DWR) Water Budget Workbook for New and Rehabilitated Non-Residential Landscape. The outdoor water use calculations assume 65,931 square feet of landscaping for the existing conditions and an additional 19,962 square feet of landscaping for the proposed project for a total of 85,893 square feet of landscaping.

Impact Analysis

Impact 5.13-2: Water supply and delivery systems are adequate to meet project requirements. [Thresholds U-2 (part) and U-4]

The proposed project would result in 189 residential units¹ and 21,355 square feet of co-working office space, and a 182,108-square-foot parking garage, resulting in 405 residents and 49 additional employees. The proposed project would not generate water demand equivalent to 500 residential units, or 250,000 square feet of commercial space, and therefore a Water Supply Assessment pursuant to SB 610 would not be required. Table 5.13-7, *Existing and Proposed Water Use*, shows the existing and proposed indoor and outdoor water use for the project site.

¹ The proposed project would include 189 units (134 regular units, 15 co-living units [five 3-bedroom units + ten 4-bedroom units = 55 units])

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Table 5.13-7 Existing and Proposed Water Use

	Existing Conditions		Proposed Conditions		Net Change	
	Gallons per day (gpd)	AFY	Gallons per day (gpd)	AFY	Gallons per day (gpd)	AFY
Indoor Water Use ¹	83,829	93.9	128,506	143.9	44,677	50.0
Outdoor Water Use ²	2,338	2.6	2,741	3.1	403	0.5
Total Water Use	86,167	96.5	131,247	147.0	45,080	50.5

Notes: gpd: gallons per day; AFY: acre-feet per year

¹ Interior water use is based on the Sewer Study (see Appendix G). The proposed interior water use was calculated by dividing the wastewater generation rate by 0.90, which assumes that 10 percent of indoor water use discharged to the sewer system is lost through inflow and infiltration before reaching the wastewater treatment plant (see Appendix C1).² Outdoor water use is based on the DWR Water Budget spreadsheet for New and Rehabilitated Non-Residential Landscapes and assumes 65,931 square feet of landscaping for the existing conditions and an additional 19,962 square feet of new landscaping for the proposed project (see Appendix C1).

The proposed project would result in a net increase of 50.5 afy, which is a conservative estimate of water demand because it is based on sewer generation rates, which are used for infrastructure sizing and do not account for reductions in water use from new construction with low-flow plumbing fixtures and water conservation efforts. As shown in Table 5.13-6, the City of Brea's UWMP forecasts an increase of 202 afy between 2025 and 2045 during a normal year. The increase of 50.5 afy would represent 25 percent of the anticipated increase in water demand forecasts for the City. As stated in the 2020 UWMP, the City is projected to meet all water demands through 2045, during normal, single dry, and multiple dry years, due to the diversified supply and conservation measures (Brea 2021b). Therefore, the City would be able to meet the water demands of the proposed project in addition to existing and cumulative demands.

The proposed project would require the installation of new and expanded water pipes in order to accommodate the increase in density on-site. The proposed system would be constructed in accordance with the City's requirements for pipe sizing, flows, pressure, and flow duration (i.e., fire flow protection, see Section 5.9, *Public Services*). Furthermore, the City has established water rates to cover costs to purchase water supplies to operate and maintain the water distribution system.

Level of Significance Before Mitigation: Less Than Significant.

5.13.2.5 CUMULATIVE IMPACTS

The City of Brea has adequate water supplies to support planned developments in the city. The available water supply would meet the projected demand for the city due to conservation measures and diversified supply. As indicated above, the City would be able to meet the water demands of the proposed project in addition to existing and cumulative demands. Therefore, the proposed project would not result in a significant impact to water supplies and treatment facilities, individually or cumulatively.

5.13.2.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.13-2 would be less than significant.

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5.13.2.7 MITIGATION MEASURES

No mitigation measures are required.

5.13.2.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.13.3 Storm Drainage Systems

5.13.3.1 ENVIRONMENTAL SETTING

Regulatory Background

Regional

Municipal Stormwater (MS4) Permit

The project site lies within the jurisdiction of Santa Ana Regional Water Quality Control Board (Region 8) and is subject to the waste discharge requirements of the North Orange County Municipal Separate Sewer (MS4) Permit (Order No. R8-2009-0030) NPDES Permit No. CAS618030, as amended by Order No. R8-2010-0062. The County of Orange, incorporated cities of Orange County, and the Orange County Flood Control District are co-permittees under the MS4 Permit. Pursuant to the MS4 Permit, the co-permittees were required to develop and implement a drainage area management plan as well as local implementation plans, which describe urban runoff management programs for the local jurisdictions. The City of Brea, as a permittee under the General MS4 permit, has legal authority for enforcing the terms of the permit in its jurisdiction.

The General MS4 Permit requires that new development or significant redevelopment projects use best management practices (BMP), including site design planning, source control, and treatment techniques, to ensure that the water quality of receiving waters is protected. These requirements are detailed in the Orange County Model Water Quality Management Plan (WQMP) and supplemental Technical Guidance Document, updated December 2013, which the City of Brea has incorporated into its project approval processes. Any new development project or significant redevelopment project (i.e., adding 5,000 or more square feet of impervious surface) is required to prepare a WQMP that specifies the BMPs and low-impact development measures that would be implemented to minimize the effects of the project on regional hydrology, runoff flow rates and/or velocities, and pollutant loads. Low-impact development is a stormwater management strategy that emphasizes conservation and use of existing site features integrated with stormwater controls that are designed to mimic natural hydrologic patterns, and minimizes runoff by reducing the elements of development that produce it. An Operations and Maintenance Plan must also be included as part of the WQMP and must designate terms, conditions, and requirements for maintaining the BMPs in perpetuity.

The County of Orange regulates storm runoff and water quality as the principal permittee under the General MS4 Permit and the drainage area management plan. The City of Brea is a co-permittee under the General MS4 Permit and has legal authority for enforcing the terms of the permit in its jurisdiction. The drainage area

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management plan includes a New Development and Significant Redevelopment program. This program incorporates watershed protection and stormwater quality management principles into the general plan process, environmental review process, and development permit approval process. The New Development and Significant Redevelopment program includes a model WQMP that defines requirements for project-specific planning, selection, and incorporation of BMPs into new development or redevelopment projects.

Stormwater Program: Trash Implementation Program

On April 7, 2015, the State Water Resources Control Board adopted an amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to control trash and Part 1, Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Together, they are collectively referred to as the “Trash Amendments.” The Trash Amendments include six elements: (1) water quality objectives, (2) applicability of amendments, (3) prohibition of discharge, (4) implementation provisions, (5) time schedule, and (6) monitoring and reporting requirements. Following adoption, the Trash Amendments were submitted to both the California Office of Administrative Law and the US Environmental Protection Agency (EPA) for review and approval. The Office of Administrative Law approved the Trash Amendments on December 2, 2015. The EPA approved the Trash Amendments on January 12, 2016.

The Trash Amendments apply to all Phase I and II permittees under the NPDES municipal separate storm sewer systems (MS4) permits who retain regulatory authority over Priority Land Uses. The State Water Resources Control Board Executive Director sent separate 13383 Orders to traditional and nontraditional Small MS4 permittees on June 1, 2017. Regional Water Quality Control Boards, as the permitting authority, issued to their Phase I permittees either Water Code 13383 or 13267 orders that contain region-specific requirements, which may differ from the State Water Resources Control Board orders.

The Trash Amendments apply to all surface waters of the state and prohibit the discharge of trash to surface waters of the State as well as the depositing of trash where it may be discharged into surface waters of the State. Priority land uses are developed sites that include high density residential (10 or more dwelling units/acre), industrial, commercial, mixed urban, public transportation stations and stops, alternative areas determined by the permittees, and other areas determined by the State.

Local

2013 Master Plan of Drainage

The Master Plan of Drainage identifies existing drainage-deficient facilities that are not in conformance with current design practices. These capacity-deficient facilities may contribute to localized flooding in the future. The Master Plan of Drainage recommends drainage improvements to reduce or eliminate existing deficiencies in the City’s storm drain system. The recommended drainage improvements are ranked from higher to lower risk for failure or localized flooding, and have budget level cost figures for each ranked segment.

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City of Brea Municipal Code Chapter 13.32, Storm Water Drainage

This chapter establishes the prohibition on illicit connections and prohibited discharges, control of urban runoff, inspections of stormwater drains, enforcement of regulations pertaining to stormwater drainages, and permits for discharge.

Existing Conditions

Five separate drainage areas (Orange County Watersheds) overlie the city and adjacent areas; storm runoff from these areas and the City flows into Orange County Flood Control District facilities of Coyote Creek, Imperial Creek, Brea Creek, Fullerton Creek, and Carbon Creek (Brea 2013). Four of these regional drain facilities conduct runoff flows southwesterly to the Coyote Creek Channel (along the county's western boundary); the fifth regional drain, Carbon Creek, carries drainage south through the Carbon Canyon diversion channel to the Santa Ana River (Brea 2013). The City's storm drainage system is made up of 53.5 miles of pipes that range from 8 inches to 78 inches, and there are 1,076 sewer mains and junction structures (Brea 2013). According to the 2013 Master Plan of Drainage, 6.9 percent of the existing storm drainpipes have exceeded design capacity for conveying stormwater runoff produced by a 10-year design storm event (Brea 2013).

5.13.3.2 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:

- U-3 Would require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

5.13.3.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for utilities and service systems are identified below.

- PPP USS-6 The project will be constructed and operated in accordance with the Santa Ana Regional Water Quality Control Board Municipal Stormwater (MS4) Permit for Orange County. The MS4 Permit requires the proposed project to prepare and implement a WQMP to:

- Control release of contaminants into storm drain systems.
- Educate the public about stormwater impacts.
- Detect and eliminate illicit discharges.
- Control runoff from construction sites.
- Implement BMPs and site-specific runoff controls and treatments.

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5.13.3.4 ENVIRONMENTAL IMPACTS

Impact 5.13-3: Existing and/or proposed storm drainage systems are adequate to serve the drainage requirements of the proposed project. [Threshold U-3]

The project area is developed with the existing shopping center, surface parking, and ornamental vegetation. Under existing conditions, the drainage for the project generally surface flows from the northwest to the southeast before being collected and conveyed by an on-site storm drain system to the box channel along the eastern side of the site (C.A. Engineering 2021a). The drainage patterns of the proposed project would remain consistent with the existing drainage patterns, and a storm drain would be extended to the north of the proposed building to a 60-foot detention pipe located upstream of the existing storm drain. The detention pipe is required to accommodate the increased flows due to installation of the storm drain. The detention pipe has a 6-inch low flow outlet pipe that would restrict stormwater flows up to the 2-year storm event. A 12-inch pipe is proposed at the middle of the detention pipe to convey storm events larger than the 2-year storm. Off-site flows would be collected along the northern property line and would be directed via the extended storm drain to the existing box channel. To satisfy the WQMP requirements, the on-site low-flows would be collected via an area drain system and conveyed to a modular wetlands system unit for treatment before flowing into the detention pipe and extended storm drain. During larger storm events, high flows that are not captured by this area drain system would sheet flow to an existing catch basin that outlet to the existing box channel (C.A. Engineering 2021a).

Table 5.13-8, *Existing and Proposed Storm Drain Flows*, shows that there would be an increase in storm drain flows at Point A (northeast of the proposed building) and no increase in storm drain flows at Point B (southeast of the proposed building). At Point A, there is a nominal increase in flows associated with installation of a new drain pipe, which reduces the time of concentration and therefore increases the flow (C.A. Engineering 2021a).

Table 5.13-8 Existing and Proposed Storm Drain Flows

	2-Year cfs	25-Year cfs	100-Year cfs
POINT A			
Existing	9.78	21.78	28.09
Proposed	9.80	21.95	28.48
Difference	0.02 (0.2%)	0.17 (0.8%)	0.39 (1.4%)
POINT B			
Existing	5.78	12.50	16.06
Proposed	5.78	12.50	16.06
Difference	0 (0%)	0 (0%)	0 (0%)

Source: C.A. Engineering 2021a.
Notes: cfs: cubic feet per second

For projects in north Orange County, hydrologic conditions of concerns are considered to exist if streams downstream from the project are determined to be potentially susceptible to hydromodification impact.

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With respect to the proposed project, not all of the downstream conveyance channels from the point of connection are engineered, hardened, and regularly maintained to ensure design flow capacity. Therefore, the project has the potential to result in a hydrologic conditions of concern. However, post-development run-off volume and time of concentration are within 105 percent of these values for the pre-development condition when assessing compliance at the location where runoff leaves the project site. A hydrologic analysis conducted at the connection point of the new and existing storm drain (Point “A”) reveals, however, that the post-development runoff peak flowrate would exceed, by more than 110 percent, the pre-development runoff peak flowrate for the 2-year frequency storm event at this location. The proposed detention pipe, which would be installed just upstream of the existing storm drain, would reduce the post-development peak flowrate to 100.2 percent of the existing condition peak flowrate at this location, thereby reducing the hydromodification impacts of the extended storm drain.

In order to comply with hydromodification requirements, the detention pipe would have a 6-inch low flow outlet to restrict outlet flows during the 2 year storm event. This results in a minimal increase of 0.02 cfs, or 0.2 percent when compared to existing conditions. Outlet flows for the 25 year and 100 year storms also experience nominal increases of 0.8 percent and 1.4 percent, respectively. Therefore, the proposed storm drain system would be able to convey the 2 year, 25 year, and 100 year storms while limiting outlet flows and satisfying drainage requirements. Additionally, the proposed project would include structural and nonstructural BMPs that would further reduce volumes and rates of runoff. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant.

5.13.3.5 CUMULATIVE IMPACTS

Cumulative impacts are considered for the five separate drainage areas (Orange County Watersheds) that overlie the city. Storm runoff from the city flows into OCFS facilities of Coyote Creek, Imperial Creek, Brea Creek, Fullerton Creek, and Carbon Creek. Other projects in the watershed may increase the amount of impervious surfaces in the watershed and therefore may increase flow rates and volumes of runoff entering storm drains in the region. Other projects in the watershed would be required by MS4 permits to be sized and designed to ensure on-site retention of volume of runoff produced from a 24-hour, 85th percentile storm event, which is similar to a two-year storm. Other impacts to storm drainage would be analyzed in separate CEQA processing for each cumulative project, and mitigation measures would be required as appropriate to minimize significant impacts.

5.13.3.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.13-3 would be less than significant.

5.13.3.7 MITIGATION MEASURES

No mitigation measures are required.

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5.13.3.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.13.4 Solid Waste

5.13.4.1 ENVIRONMENTAL SETTING

Regulatory Background

State

California Green Building Standards Code

Section 5.408 of the 2013 California Green Building Standards Code (California Code of Regulations Title 24, Part 11) requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 939: Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (Public Resources Code Sections 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 342

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (Public Resources Code Sections 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October of 2014, Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings that consist of

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five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.

Local

City of Brea Municipal Code Chapter 8.28, Solid Waste Collection and Salvage of Recyclable Materials

This chapter is intended to assist in the implementation of the City's Source Recovery and Recycling Element, which was prepared pursuant to the California Integrated Waste Management Act. This chapter provides various solid waste-related requirements, such as hours of collection, solid waste removal and collection, and recyclable material and green waste collection services.

City of Brea Municipal Code Chapter 8.29, Construction and Demolition Waste Management

The purpose of this chapter is to reduce landfill waste by requiring an applicant for every covered project to divert a minimum of 50 percent of the construction and demolition debris resulting from that project, in compliance with state and local statutory goals and policies, and to create a mechanism to secure compliance with the diversion requirements.

Existing Conditions

Solid Waste Collection

The City of Brea contracts with Republic Services for trash and recycling services. In 2019, the latest year for which data were available, 70,155 tons of solid waste and 8,676 tons of alternative daily cover² from the city were landfilled (CalRecycle 2021a).

Landfills

Solid waste from the City of Brea is landfilled at Olinda Alpha landfill in Brea, which is owned and operated by OC Waste and Recycling. Olinda Alpha landfill has a daily maximum throughput of 8,000 tons per day, a remaining capacity of 34,200,000 cubic yards, and an estimated cease date of December 31, 2021 (CalRecycle 2021b). The Frank R. Bowerman Sanitary landfill in Irvine would accommodate solid waste upon the closing of Olinda Alpha landfill. The Frank R. Bowerman has a daily maximum throughput of 11,500 tons per day, a remaining capacity of 205,000,000 cubic yards, and an estimated cease date of December 31, 2053 (CalRecycle 2021c).

Landfills are required to comply with existing landfill regulations from federal, state, and local regulatory agencies. They are subject to regular inspections from CalRecycle and the local enforcement agencies, the Santa Ana Regional Water Quality Control Board, and the South Coast Air Quality Management District.

² Alternative daily cover means cover material other than earthen material placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging.

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Solid Waste Diversion and Recycling

As of 2019, the latest year for which data are available, there were 47 solid waste diversion programs in Brea, including those for composting, household hazardous waste collection, public education programs, recycling, source reduction at businesses and schools, and special waste materials such as tires and concrete/asphalt/rubble (CalRecycle 2021d).

Compliance with the diversion requirement in AB 939 is measured in part by comparing actual disposal rates with target disposal rates; disposal rates at or below target rates are consistent with AB 939. For 2018, the latest year for which data were approved, the target disposal rates for Brea were 11.50 pounds per day (ppd) per resident and 10.10 ppd per employee; actual disposal rates in 2019—8.40 ppd per resident and 7.40 ppd per employee—were below target rates and thus were consistent with AB 939 (CalRecycle 2021e).

5.13.4.2 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:

- U-6 Would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- U-7 Would not comply with federal, state, and local statutes and regulations related to solid waste.

5.13.4.3 PLANS, PROGRAMS, AND POLICIES

Plans, programs, and policies (PPP), including applicable regulatory requirements and conditions of approval for utilities and service systems are identified below.

- PPP USS-7 California's Green Building Standards Code (CALGreen) requires the recycling and/or salvaging for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste generated during most "new construction" projects (CALGreen Sections 4.408 and 5.408). Construction contractors are required to submit a construction waste management plan that identifies the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project, or salvage for future use or sale and the amount (by weight or volume).
- PPP USS-8 The project will abide by AB 341 and AB 1826. The project will store and collect recyclable materials in compliance with AB 341. Green waste will be handled in accordance with AB 1826.

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5.13.4.4 ENVIRONMENTAL IMPACTS

Impact 5.13-4: Existing and/or proposed facilities would be able to accommodate project-generated solid waste and comply with related solid waste regulations. [Thresholds U-6 and U-7]

The proposed project would generate an increase in solid waste disposal. Table 5.13-9, *Brea Plaza Expansion Project Estimated Solid Waste Disposal*, provides an estimate of the solid waste generated under existing conditions and the proposed project. The proposed project would generate an increase of 17.80 tons per year. The Olinda Alpha Landfill would accept waste from the proposed project. The Olinda Alpha landfill has a maximum throughput of 8,000 tons per day (2,920,000 tons per year). The increase in solid waste generated from the proposed project would represent less than 1 percent of the maximum daily throughput. The increase in solid waste disposal would be accommodated by the landfill's remaining capacity.

Table 5.13-9 Brea Plaza Expansion Project Estimated Solid Waste Disposal

Land Use	Total Solid Waste (tons/year)		
	Existing	Project	Net
Restaurant	507.54	507.54	0
Medical Office	17.28	17.28	0
Regional Shopping Center	71.84	71.84	0
Supermarket	193.00	193.00	0
Movie Theater (no matinee)	143.00	0	-143.00
Apartment Mid-Rise	0	105.34	105.34
General Office Building	0	19.86	19.86
Total	932.66	914.86	17.80

Source: CalEEMod Version 2016.3.25 (see Appendix C1)

Additionally, the proposed project would comply with solid waste disposal requirements, including requirements to divert solid waste to landfills through recycling. During construction, the proposed project would comply with CALGreen, which requires recycling and/or salvaging for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste generated during most "new construction" projects (CALGreen Sections 4.408 and 5.408). During operations, the proposed project would comply with AB 341 and AB 1826, which require commercial and multifamily residential land uses to have recycling and organic waste recycling.

Level of Significance Before Mitigation: Less Than Significant.

5.13.4.5 CUMULATIVE IMPACTS

Cumulative impacts are considered for Orange County, the service area for OC Waste and Recycling, which owns and operates the Olinda Alpha landfill. The Olinda Alpha landfill has a daily throughput of 8,000 tons per day, and a remaining capacity of 34,200,000 cubic yards, and an estimated cease date of December 31, 2021. Upon the closing of the Olinda Alpha landfill, solid waste would be landfilled at Frank R. Bowerman Sanitary landfill. There is adequate landfill capacity to accommodate existing and future projects in the city at

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both these landfills. No significant cumulative impact to landfill capacity would occur, and the proposed project would not contribute to a significant cumulative impact.

5.13.4.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.13-4.

5.13.4.7 MITIGATION MEASURES

No mitigation measures are required.

5.13.4.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

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6. Significant Unavoidable Adverse Impacts

Chapter 1, *Executive Summary*, contains Table ES-5, which summarizes the impacts, mitigation measures, and levels of significance before and after mitigation. As identified in this Draft EIR, mitigation measures would reduce the level of impacts to less than significant levels, and no significant and unavoidable impacts would remain.

6. Significant Unavoidable Adverse Impacts

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7. Alternatives to the Proposed Project

7.1 INTRODUCTION

7.1.1 Purpose and Scope

The California Environmental Quality Act (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 § 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])

7. Alternatives to the Proposed Project

- “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])

For each development alternative, this analysis:

- 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.
- 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, the following objectives have been established for the proposed project and will aid decision makers in their review of the project, the project alternatives, and associated environmental impacts.

1. Revitalize the site with higher quality amenities by developing housing and office uses near other commercial and residential uses, thereby introducing a newer, high-quality mixed-use environment to the city.
2. Redevelop and invigorate the project site with the spirit and intent of the General Plan vision by developing a mix of uses.
3. Provide additional opportunities for residential growth, including affordable housing, on infill parcels near existing transit stops.
4. Improve the jobs-housing balance in Brea and provide new housing within close proximity to jobs and services.
5. Promote healthy living by providing opportunities to use alternative transportation options available near the site.
6. Provide a free intra-bus transportation system that would include stops at various locations and would reduce traffic and parking, support businesses, and enhance Brea’s image as a new hub to work and live.

7. Alternatives to the Proposed Project

7.1.3 Significant Impacts of the Project

As identified in Chapter 5, *Environmental Analysis*, implementation of existing regulations and mitigation measures would reduce all impacts to less than significant levels. No significant and unavoidable impacts would remain. However, without implementation of mitigation measures, the following impacts would be potentially significant:

Cultural Resources

- The proposed project could potentially unearth previously unknown/unrecorded archaeological resources.
- Due to the ground disturbance associated with construction, there is potential that natural landform beneath the site would be encountered during construction and that subsurface resources and/or paleontological resources would be discovered.

Tribal Cultural Resources

- Because the proposed project would require trenching and other ground-disturbing activities for construction, there is potential to uncover tribal cultural resources during ground-disturbing activities.

7.2 ALTERNATIVES CONSIDERED AND 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 Development Areas

CEQA requires that the discussion of alternatives focus on 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 whether any of the significant effects of the project would be avoided or substantially lessened by putting 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 § 15126[5][B][1]). Key factors in evaluating the feasibility of potential off-site locations for EIR project alternatives include:

- If it is in the same jurisdiction.
- Whether development as proposed would require a general plan amendment.
- Whether the project applicant could reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). (CEQA Guidelines Section 15126.6[f][1])

7. Alternatives to the Proposed Project

The project applicant does not own or control other comparably sized and located property close to Brea Downtown. While the project requires the approval of a general plan amendment, zone change, and a request for a development agreement by the applicant, objectives for the project include providing residential and employment opportunities near Brea Downtown, Brea Mall, and other commercial and residential uses on an infill parcel.

In general, any development of the size and type proposed by the project would have substantially the same impacts on aesthetics, air quality, cultural and paleontological resources, energy, greenhouse gas (GHG) emissions, land use and planning, noise, population and housing, public services, recreation, transportation, tribal cultural resources, and utilities and service systems. These impacts were found to be less than significant or less than significant with mitigation incorporated.

It was determined, therefore, that it is unlikely that there is an alternative project site that could potentially meet the objectives of the proposed project and reduce significant impacts of the project as proposed.

7.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

The following three alternatives have been determined to represent a reasonable range of alternatives that have the potential to feasibly attain most of the basic objectives of the project but may avoid or substantially lessen any of the significant effects of the project. These alternatives are analyzed in detail in the following sections.

- No Project Alternative
- Existing Zoning Alternative
- Reduced Density Alternative

An EIR must identify an “environmentally superior” alternative, and where the No Project Alternative is identified as environmentally superior, the EIR is required to identify as environmentally superior an 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. The preferred land use alternative (proposed project) is analyzed in detail in Chapter 5 of this DEIR. This chapter provides a comparative analysis, by impact, for each of the alternatives. A conclusion with respect to an environmentally superior alternative is provided in Section 7.7.

Alternatives Comparison

The following statistical analysis provides a summary of general socioeconomic buildout projections determined by the four land use alternatives, including the proposed project. It is important to note that these are not growth projections. That is, they do not anticipate what is likely to occur by a certain time horizon, but provide a buildout scenario that would only occur if all the areas of the city were to develop to the probable capacities yielded by the land use alternatives. The following statistics were developed as a tool to understand better the differences between the alternatives analyzed in the DEIR. Table 7-1, *Buildout Statistical Summary*, identifies citywide information regarding dwelling unit, population, and employment projections and provides the jobs-to-housing ratio for each of the alternatives.

7. Alternatives to the Proposed Project

Table 7-1 Buildout Statistical Summary

	Total Brea Plaza Shopping Center with the Proposed Project	No Project Alternative	Total Brea Plaza Shopping Center with the Existing Zoning Alternative	Total Brea Plaza Shopping Center with the Reduced Density Alternative
Dwelling Units	189	0	0	95
Net Increase in Nonresidential Square Footage	21,355	0	21,355	21,355
Total Nonresidential Square Footage	168,234	165,329	186,684	168,234
Movie Theater Seats ¹	0	1,100	1,100	0
Brea Plaza Shopping Center Population	405	0	0	203
Brea Plaza Shopping Center Employment	284	235	310	284
Jobs-to-Housing Ratio (Citywide) ²	1.29	1.31	1.31	1.30

Notes:

¹ The total square footage of the movie theater is 18,450 square feet; there are 26 employees at the movie theater.² There are 15,923 dwelling units in the city (2019) and 20,783 employees (2020); refer to Chapter 5.8, *Population and Housing*, of this DEIR.

7.3.1 NO PROJECT ALTERNATIVE

The No Project Alternative is required to discuss the existing conditions at the time the notice of preparation is published and evaluate what would reasonably be expected to occur in the foreseeable future if the proposed project is not approved (CEQA Guidelines, Section 15126.6(e)). Pursuant to CEQA, this alternative is based on current plans and consistent with available infrastructure and community services. Therefore, the No Project Alternative assumes that the proposed project would not be adopted, and no development would occur on-site. The project site would remain as the existing Brea Plaza Shopping Center—no demolition would occur, no residential or office development, and no increase in associated residents or decrease in employees. Table 7-2, *No Project Alternative Buildout Statistical Summary*, compares the buildout statistical summary of the proposed project with the No Project Alternative.

Table 7-2 No Project Alternative Buildout Statistical Summary

	Total Brea Plaza Shopping Center with the Proposed Project	No Project Alternative
Dwelling Units	189	0
Net Increase in Nonresidential Square Footage	21,355	0
Total Nonresidential Square Footage	168,234	165,329
Movie Theater Seats ¹	0	1,100
Population	405	0
Employment	284	235
Jobs-to-Housing Ratio (Citywide) ²	1.29	1.31

Notes:

¹ The total square footage of the movie theater is 18,450 square feet; there are 26 employees at the movie theater.² There are 15,923 dwelling units in the city (2019) and 20,783 employees (2020); refer to Chapter 5.8, *Population and Housing*, of this DEIR.

7. Alternatives to the Proposed Project

7.3.1.1 AESTHETICS

Impacts associated with aesthetics include the degradation of scenic vistas, scenic resources, and increased light and glare. Under the No Project Alternative, no new development would occur on the project site. Therefore, the existing visual character and resources near and on the project site would be preserved in their current state, and no impact would occur to scenic vistas or scenic resource in the city. Given no new development, there would be no new sources of light and glare and no structures that are taller than existing structures on-site.

Although impacts to aesthetics are inherently subjective, the proposed project would improve the project site with updated buildings and façades that would be compatible with the existing structures, as well as with associated landscaping in an area of the site that is currently used as parking, adjacent to SR-57. The No Project Alternative would not include any building improvements on-site. Therefore, it is concluded that the aesthetic impacts for the No Project Alternative would be similar to the proposed project because the proposed uses would be compatible with the design of existing buildings on-site. As with the proposed project, aesthetic impacts under this Alternative would be similar.

7.3.1.2 AIR QUALITY

Under this alternative, there would be no new development and therefore no new construction activities and associated exhaust and fugitive dust emissions. This alternative would eliminate the project's short-term construction impacts.

During the operation phase, the proposed project would result in a reduction of vehicle trips as a result of demolition of the existing 1,100-seat movie theater. However, the No Project Alternative would generate less emissions associated with building energy use. Nonetheless, this alternative emits more of some of the criteria air pollutants when compared to the proposed project.

7.3.1.3 CULTURAL AND PALEONTOLOGICAL RESOURCES

Under the No Project Alternative, no ground-disturbing activities would take place at the project site. Accordingly, this alternative does not have the potential to impact archaeological and paleontological resources. With no development, there would be no potential damage to cultural and paleontological resources. The project's less-than-significant impacts would be eliminated altogether.

7.3.1.4 ENERGY

The No Project Alternative would not generate a temporary increase in energy and fuel demand during construction or a long-term increase in energy during project operation from the increase in building square footage on-site. This alternative has a slightly greater fuel demand compared to the proposed project, which reduces vehicle trips and associated fuel use. Overall, however, the No Project Alternative would reduce energy use compared to the proposed project.

7. Alternatives to the Proposed Project

7.3.1.5 GREENHOUSE GAS EMISSIONS

The No Project Alternative would not generate an increase in GHG emissions from construction activities and generates less emissions associated with building energy use, water and wastewater generation, and solid waste disposal than the proposed project. However, by demolishing the 1,100-seat movie theater, the proposed project would reduce vehicle trips during operation. Overall, the No Project Alternative generates higher GHG emissions than would the proposed project.

7.3.1.6 LAND USE AND PLANNING

Unlike the proposed project, the No Project Alternative does not require a general plan amendment, zone change, or request for a development agreement. However, the proposed project would not conflict with policies and zoning in a way that could result in substantial physical impacts to the environment. Because retaining the site as the existing Brea Plaza Shopping Center does not require a general plan amendment, zone change, or request for a development agreement, this Alternative would eliminate potential impacts of the proposed project.

7.3.1.7 NOISE

Under this alternative, there would be no new development and, therefore, no new construction activities and associated noise and vibration. Therefore, this alternative would eliminate the project's short-term construction impacts.

During the operation phase, the proposed project would eliminate the vehicle trips from the 1,100-seat movie theater, which would be demolished. With the theater, the No Project Alternative generates higher traffic noise levels than would the proposed project. However, it eliminates the proposed project's additional stationary sources of noise. Long-term operational noise and traffic of the No Project Alternative are similar to the proposed project.

7.3.1.8 POPULATION AND HOUSING

The No Project Alternative would not increase residents or decrease employees at the project site, so it does not directly impact population growth in the city. Like the proposed project, the No Project Alternative does not displace housing or people. However, this alternative does not increase housing units in Brea or achieve the beneficial impacts of the proposed project related to housing. Therefore, the No Project Alternative is considered inferior to the proposed project in terms of population and housing.

7.3.1.9 PUBLIC SERVICES

The No Project Alternative would not increase demand for fire, police, school, and library services and facilities in the city. In general, residential land uses generate a greater demand for these services than nonresidential land uses, so the proposed project would increase service-based impacts by increasing residential land uses, but the No Project Alternative would not. This alternative would eliminate the public services impacts of the proposed project, which are less than significant.

7. Alternatives to the Proposed Project

7.3.1.10 RECREATION

With no new development under this alternative, the project site would remain the existing Brea Plaza Shopping Center. The proposed project's recreational impacts are less than significant, but the No Project Alternative would eliminate those potential impacts to recreation in Brea.

7.3.1.11 TRANSPORTATION

The proposed project would reduce vehicle trips and vehicle miles traveled (VMT) during its operation because it would demolish the 1,100-seat movie theater. As a result, the No Project Alternative is inferior to the proposed project for effects on transportation.

7.3.1.12 TRIBAL CULTURAL RESOURCES

The project site would remain in its existing conditions under the No Project Alternative. Therefore, no ground-disturbing activities would occur, and tribal cultural resources on-site would not be affected. This would eliminate the impacts of the proposed project; however, these would be less than significant with mitigation measures incorporated.

7.3.1.13 UTILITIES AND SERVICE SYSTEMS

No new development would occur on the project site under this alternative. Therefore, there would be no increase in demand for potable water, wastewater generation, or solid waste disposal. Overall, this alternative eliminates impacts of the proposed project, which are less than significant.

7.3.1.14 CONCLUSION

The No Project Alternative would avoid or lessen the proposed project's less-than-significant impacts in the areas of construction-related air quality, cultural and paleontological resources, energy, land use and planning, construction-related noise, public services, recreation, tribal cultural resources, and utilities and service systems. Impacts to aesthetics and operational noise would be similar to the proposed project. This alternative would increase impacts to long-term air quality, construction-related noise, population and housing, and transportation.

The No Project Alternative would retain the site in its current state as the existing Brea Plaza Shopping Center. Therefore, none of the project objectives would be achieved under this alternative. The No Project Alternative would not provide any of the benefits that would accompany implementation of the proposed project, including developing housing and office uses, redeveloping the site according to the General Plan's mixed-use vision, providing opportunities for residential growth near transit stops, improving the jobs-housing balance, promoting healthy living by providing opportunities to use alternative transportation, and providing a free intra-bus transportation system.

7. Alternatives to the Proposed Project

7.3.2 EXISTING ZONING ALTERNATIVE

The Existing Zoning Alternative would construct the 21,355 square feet of office space, but would not develop the 189 residential units and would not demolish the movie theater. Therefore, a general plan amendment and zone change from General Commercial (C-G) to Mixed Use I (MU-I) would not be required. No parking structure would be provided, and it is assumed parking for the additional office could be accommodated on-site. This alternative, like the proposed project, would add 49 employees for a total of 310 employees on-site, but it would have no residents. Table 7-3, *Existing Zoning Alternative Buildout Statistical Summary*, compares the buildout statistical summary of the proposed project with the Existing Zoning Alternative.

Table 7-3 Existing Zoning Alternative Buildout Statistical Summary

	Total Brea Plaza Shopping Center with the Proposed Project	Total Brea Plaza Shopping Center with the Existing Zoning Alternative
Dwelling Units	189	0
Net Increase in Nonresidential Square Footage	21,355	21,355
Total Nonresidential Square Footage	168,234	186,684
Movie Theater Seats ¹	0	1,100
Brea Plaza Shopping Center Population	405	0
Brea Plaza Shopping Center Employment	284	310
Jobs-to-Housing Ratio (citywide) ²	1.29	1.31

Notes:

¹ The total square footage of the movie theater is 18,450 square feet; there are 26 employees at the movie theater.

² There are 15,923 dwelling units in the city (2019) and 20,783 employees (2020); refer to Chapter 5.8, *Population and Housing*, of this DEIR.

7.3.2.1 AESTHETICS

Impacts associated with aesthetics include the degradation of scenic vistas, scenic resources, and increased light and glare. Similar to the proposed project, this alternative would not impact a scenic vista or scenic resources in the city. Impacts associated with this alternative would be similar to the proposed project because new development and landscaping would be proposed. However, this alternative would not include the residential component of the proposed project, thereby reducing the size of the structure on-site compared to the proposed project. Like the proposed project, this alternative would be required to comply with development standards and design guidelines and would be designed to be compatible with the existing structures on-site. Therefore, impacts would be similar to the proposed project and would be less than significant.

7.3.2.2 AIR QUALITY

Development of only the office space would result in less intensive construction than the proposed project, including a substantially smaller building square footage and shorter construction duration. Therefore, peak construction emissions would be less than for the proposed project. The Existing Zoning Alternative would reduce short-term construction impacts of the proposed project, which are already less than significant.

7. Alternatives to the Proposed Project

During the operational phase, this alternative would result in more vehicle trips and VMT than the proposed project because the movie theater would not be demolished, but it would also decrease building square footage. Therefore, this alternative would increase long-term operational air quality emissions compared to the proposed project, though like the proposed project, impacts would be less than significant.

7.3.2.3 CULTURAL AND PALEONTOLOGICAL RESOURCES

Implementation of the proposed project could uncover cultural resources during ground-disturbing activities. Both this alternative and the proposed project would require mitigation in the event cultural resources are uncovered during grading. Therefore, impacts would be similar to the proposed project and would be less than significant with implementation of mitigation.

7.3.2.4 ENERGY

This alternative would result in a decrease in building energy use as a result of the loss of the residential component. However, this alternative would result in an increase in vehicle trips and associated fuel use. Construction associated with this alternative would also have reduced energy demands because of the slightly shorter construction duration and intensity. Impacts would be similar to the proposed project and less than significant.

7.3.2.5 GREENHOUSE GAS EMISSIONS

During the operational phase, this alternative would result in greater vehicle trips and VMT than the proposed project because the movie theater would not be demolished. This alternative would decrease building square footage and slightly decrease construction-related emissions. Overall, this alternative would increase GHG emissions compared to the proposed project. Like the proposed project, impacts would be less than significant.

7.3.2.6 LAND USE AND PLANNING

Because this alternative would not include the residential component, a general plan amendment and zone change would not be required. However, though the proposed project would require a zone change, it would not conflict with policies and zoning in a way that would result in substantial physical impacts to the environment. Because the office use would not require a general plan amendment or zone change, this alternative would eliminate impacts of the proposed project and would be less than significant.

7.3.2.7 NOISE

Development of only the office space would result in less intensive construction than the proposed project, including substantially less building square footage and a shorter construction duration. Therefore, noise and vibration from short-term construction activities would be less than the proposed project and, like the project, less than significant.

During the operation phase, the proposed project would reduce vehicle trips because of demolition of the 1,100-seat movie theater. As a result, this alternative would generate higher traffic noise levels than the

7. Alternatives to the Proposed Project

proposed project. This alternative eliminates the additional stationary sources of noise generated by the residential component of the proposed project. Long-term noise impacts of the Existing Zoning Alternative would be similar to those of the proposed project. As with the proposed project, traffic noise impacts would be less than significant.

7.3.2.8 POPULATION AND HOUSING

Similar to the proposed project, this alternative would not displace housing or people. However, it would increase the city's jobs-housing balance by providing more employment opportunities without providing housing opportunities. Under this alternative, approximately 49 employees would be generated. Because this alternative would not include the residential component, impacts would be slightly greater compared to the proposed project, but less than significant.

7.3.2.9 PUBLIC SERVICES

Residential uses generate a higher demand for emergency service calls (e.g., police, fire) and school demands than non-residential land uses. The Existing Zoning Alternative would be required to pay development impact fees and comply with applicable regulations and standard conditions to ensure that impacts related to public services are less than significant. This alternative would reduce demand for public services compared to the proposed project, and impacts would be less than significant.

7.3.2.10 RECREATION

Residential land uses have higher demand for recreational services. This alternative eliminates the residential component of the proposed project and would eliminate recreational impacts of the proposed project, which are less than significant.

7.3.2.11 TRANSPORTATION

During the operation phase, the proposed project would reduce vehicle trips as a result of demolition of the existing 1,100-seat movie theater. The office building would result in a total of 128 weekday trips, so the Existing Zoning Alternative would not screen out of the City's VMT analysis. Additionally, the additional weekday trips would cumulatively contribute to the higher collision incidence on Imperial Highway from vehicles weaving to enter the SR-57 northbound ramps. As a result, this alternative would result in greater impacts than the proposed project and would result in a significant unavoidable impact to VMT and transportation safety.

7.3.2.12 TRIBAL CULTURAL RESOURCES

Implementation of this alternative could uncover tribal cultural resources during grading activities. Therefore, potential tribal cultural resources impacts would be similar to the proposed project and would be less than significant with mitigation incorporated.

7. Alternatives to the Proposed Project

7.3.2.13 UTILITIES AND SERVICE SYSTEMS

This alternative would create less demand for water and would generate less wastewater and solid waste compared to the proposed project. Utilities and service systems impacts would be reduced compared to the proposed project's, which would be less than significant.

7.3.2.14 CONCLUSION

The Existing Zoning Alternative would avoid or lessen the proposed project's insignificant impacts in the areas of construction-related air quality, cultural and paleontological resources, energy, land use and planning, construction-related noise, public services, recreation, tribal cultural resources, and utilities and service systems. Impacts to aesthetics and noise would be similar to the proposed project. This alternative would increase impacts to long-term air quality, construction-related noise, population and housing, and transportation. It would also result in a new significant and unavoidable transportation impact.

This alternative would not develop the residential component of the proposed project. Therefore, it would not achieve all of the project objectives, including revitalizing the site with residential uses (Objective 1), providing additional housing opportunities near transit (Objective 3), and improving the jobs-housing balance (Objective 4).

7.3.3 REDUCED DENSITY ALTERNATIVE

This alternative would include both the residential and nonresidential (office) components of the proposed project and construction of a parking structure to accommodate the increase in parking for the residential units. However, the Reduced Density Alternative would reduce the residential density on the project site by half compared to the proposed project. Therefore, this alternative would result in 94 fewer dwelling units and 202 fewer residents compared to the proposed project. Under the proposed project, the residential density averages 86 units per acre on the 2.2-acre site¹; under this alternative, the residential density would average 43 units per acre on the 2.2-acre site.² Because of the reduced number of residential units, this alternative assumes that the parking structure square footage and spaces would also be half of those for the proposed project. Like the proposed project, this alternative would demolish the existing 1,100-seat movie theater, and make improvements in the same general area of disturbance as the proposed project. The reductions in parking structure square footage and residential units would result in a smaller building, that is, four stories tall instead of eight. Table 7-4, *Reduced Density Alternative Buildout Statistical Summary*, compares the buildout statistical summary of the proposed project and the Reduced Density Alternative.

¹ The MU-I zone allows density (dwelling units per acre) to be applied across the project site rather than to the individual parcels. Therefore, although the residential density on the 2.2-acre site exceeds 50 units an acre, when averaged across the entire 16-acre site, the residential averages 12 units per acre. This alternative is designed to result in a density of less than 50 units per acre when calculated over the 2.2-acre project expansion area only.

² When average across the entire 16-acre project site, the residential averages 5.94 units per acre.

7. Alternatives to the Proposed Project

Table 7-4 Reduced Density Alternative Buildout Statistical Summary

	Total Brea Plaza Shopping Center with the Proposed Project	Total Brea Plaza Shopping Center with the Reduced Density Alternative
Dwelling Units	189	95
Net Increase in Nonresidential Square Footage	21,355	21,355
Total Nonresidential Square Footage	168,234	168,234
Movie Theater Seats ¹	0	0
Brea Plaza Shopping Center Population	405	203
Brea Plaza Shopping Center Employment	284	284
Jobs-to-Housing Ratio (citywide) ²	1.29	1.30

Notes:

¹ The total square footage of the movie theater is 18,450 square feet; there are 26 employees at the movie theater.² There are 15,923 dwelling units in the city (2019) and 20,783 employees (2020); refer to Chapter 5.8, *Population and Housing*.

7.3.3.1 AESTHETICS

Impacts associated with aesthetics include the degradation of scenic vistas, scenic resources, and increased light and glare. Similar to the proposed project, this alternative would not impact a scenic vista or scenic resources in the city. This alternative would reduce residential density on-site and substantially reduce the number of stories and building height compared to the proposed project. However, the City's development standards and design guidelines would continue to apply, and the proposed buildings would be compatible with the existing buildings on-site. Therefore, impacts would be similar to the proposed project and less than significant.

7.3.3.2 AIR QUALITY

The Reduced Density Alternative would result in less intensive construction than the proposed project, including a substantially smaller residential building and parking garage square footage and shorter construction duration. Therefore, peak construction emissions would be less than the proposed project. The Reduced Density Alternative would reduce short-term construction impacts of the proposed project. Like the proposed project short-term impacts would be less than significant.

During the operational phase, this alternative would generate fewer trips and VMT than the proposed project as a result of the reduction in residential units. In addition, building energy use associated with the residential component of the project would be reduced. Consequently, this alternative would slightly reduce long-term operational air quality of the project, and impacts would be less than significant.

7.3.3.3 CULTURAL AND PALEONTOLOGICAL RESOURCES

Implementation of the proposed project could uncover cultural resources during grading activities. Both this alternative and the proposed project would require mitigation in the event cultural resources are uncovered during grading. Therefore, impacts would be similar to the proposed project and would be less than significant with mitigation incorporated.

7. Alternatives to the Proposed Project

7.3.3.4 ENERGY

The Reduced Density Alternative would result in fewer vehicle trips and associated fuel use and a small residential building than the proposed project, resulting in less demand for electricity and natural gas. As a result, this alternative would result in less energy demand during construction and operational phases. Impacts would be reduced compared to the proposed project and would remain less than significant.

7.3.3.5 GREENHOUSE GAS EMISSIONS

During the operational phase, this alternative would result in fewer vehicle trips and VMT than the proposed project as a result of the reduction in residential units. This alternative would also result in a decrease building square footage and slightly less construction-related emissions. Overall, this alternative would reduce GHG emissions compared to the proposed project. Like the proposed project, impacts would be less than significant.

7.3.3.6 LAND USE AND PLANNING

Both the proposed project and the Reduced Density Alternative would require a general plan amendment and zone change. No physical impacts to the environment were identified for the proposed project. Under this alternative, the density of the residential uses would be reduced by half, resulting in a lower density product with reduced height. Therefore, compared to the proposed project, this alternative would reduce impacts, which would remain less than significant.

7.3.3.7 NOISE

Development of a smaller residential building and parking structure would result in less intensive construction than the proposed project, including a smaller building square footage and shorter construction duration. Therefore, noise and vibration from short-term construction activities would be less than the proposed project and, like the project, would be less than significant.

During the operation phase, the Reduced Density Alternative would reduce vehicle trips as a result of having fewer residential units. As a result, this alternative generates less traffic noise levels than the proposed project. This alternative would have similar stationary sources of noise as the proposed project. Long-term noise impacts of the Reduced Density Alternative would be reduced compared to those of the proposed project. As with the proposed project, noise impacts would be less than significant.

7.3.3.8 POPULATION AND HOUSING

Similar to the proposed project, the Reduced Density Alternative would not displace housing or people. Under this alternative, approximately 203 residents would be generated, which is half the residents that would be generated under the proposed project. This alternative would have slightly greater impacts than the proposed project—but would be less than significant—because it would create fewer housing opportunities in the city.

7. Alternatives to the Proposed Project

7.3.3.9 PUBLIC SERVICES

Residential uses generate a higher demand for emergency services (e.g., police, fire) and school demands than nonresidential land uses. This alternative would generate 202 fewer residents compared to the proposed project. This alternative would be required to pay development impact fees and comply with applicable regulations and standard conditions to ensure that impacts related to public services are less than significant. This alternative would reduce demand for public services compared to the proposed project and would remain less than significant.

7.3.3.10 RECREATION

The Reduced Density Alternative would result in a reduced demand for recreational facilities because residential uses generate higher demands. This alternative would provide rooftop gardens, terraces, and breezeways on the project site. Compared to the proposed project, this alternative would reduce impacts due to the reduction in residential density and would remain less than significant.

7.3.3.11 TRANSPORTATION

During the operation phase, the proposed project would reduce vehicle trips and VMT as a result of demolition of the existing 1,100-seat movie theater. The Reduced Density Alternative would further reduce vehicle trips and VMT compared to the proposed project. As a result, this alternative reduces transportation impacts compared to the proposed project, and impacts would be less than significant.

7.3.3.12 TRIBAL CULTURAL RESOURCES

Implementation of this alternative could uncover tribal cultural resources during grading activities. Therefore, potential tribal cultural resources impacts would be similar to the proposed project and would be less than significant with mitigation incorporated.

7.3.3.13 UTILITIES AND SERVICE SYSTEMS

This alternative would create less demand for water and would generate less wastewater and solid waste compared to the proposed project because of the reduction in residential density. Impacts to utilities and service systems would be reduced compared to the proposed project and would remain less than significant.

7.3.3.14 CONCLUSION

The Reduced Density Alternative would avoid or lessen the proposed project's insignificant impacts in the areas of construction and operational phase air quality, energy, GHG emissions, land use and planning, construction and operational phase noise, public services, recreation, transportation, and utilities and service systems. It would result in similar impacts to aesthetics, cultural and paleontological resources, and tribal cultural resources and in greater impacts to population and housing.

This alternative would result in reduced residential density and height of the proposed project and would include the office component. Therefore, this alternative would achieve all of the project objectives, but to a lesser extent than the proposed project.

7. Alternatives to the Proposed Project

7.4 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. One alternative has been identified as “environmentally superior” to the proposed project:

- Reduced Density Alternative

The Reduced Density Alternative has been identified as the environmentally superior alternative. As shown in Table 7-5, *Summary of Impacts of Alternatives Compared to the Proposed Project*, this alternative would lessen impacts associated with air quality, energy, GHG emissions, noise, public services, recreation, transportation, and utilities and service systems. The remaining impacts are generally the same as the proposed project, with the exception of population and housing, because the Reduced Density Alternative would result in a less balanced jobs-housing ratio. Table 7-6, *Ability of Each Alternative to Meet the Project Objectives*, shows that this alternative also meets all the project objectives, though to a lesser extent.

Table 7-5 Summary of Impacts of Alternatives Compared to the Proposed Project

Topic	Proposed Project	No Project Alternative	Existing Zoning Alternative	Reduced Density Alternative
Aesthetics	LTS	=	=	=
Air Quality				
Construction	LTS	–*	–	–
Operation	LTS	+	+	–
Cultural and Paleontological Resources	LTS/M	–*	=	=
Energy	LTS	–	–	–
GHG emissions	LTS	+	+	–
Land Use and Planning	LTS	–*	–	–
Noise				
Construction	LTS	–*	–	–
Operation	LTS	+	=	–
Population and Housing	LTS	+	+	+
Public Services	LTS	–*	–	–
Recreation	LTS	–*	–*	–
Transportation	LTS	+	++	–
Tribal Cultural Resources	LTS/M	–*	=	=
Utilities and Service Systems	LTS	–*	–	–

Notes: LTS = Less than Significant; LTS/M = Less than Significant with Mitigation Incorporated; S/U = Significant and Unavoidable

(*) The alternative would eliminate an impact of the proposed project and impacts would be substantially reduced.

(=) The alternative would result in the same/similar impacts as the proposed project.

(–) The alternative would result in less of an impact than the proposed project.

(+) The alternative would result in greater impacts than the proposed project.

(++) The alternative would result in a new significant unavoidable impact.

7. Alternatives to the Proposed Project

Table 7-6 Ability of Each Alternative to Meet the Project Objectives

Objective	Proposed Project	No Project Alternative	Existing Zoning Alternative	Reduced Density Alternative
Revitalize the site with higher quality amenities by developing housing and office uses proximate to other commercial and residential uses, thereby introducing a newer, high-quality mixed-use environment to the city.	Yes	No	Yes, but to a lesser extent	Yes, but to a lesser extent
Redevelop and invigorate the project site with the spirit and intent of the General Plan vision by developing a mix of uses.	Yes	No	Yes	Yes
Provide additional opportunities for residential growth, including affordable housing, on infill parcels near existing transit stops.	Yes	No	No	Yes, but to a lesser extent
Improve the jobs-housing balance in Brea and provide new housing within close proximity to jobs and services.	Yes	No	Yes, but to a lesser extent	Yes, but to a lesser extent
Promote healthy living by providing opportunities to use alternative transportation options available near the site.	Yes	No	Yes	Yes
Provide a free intra-bus transportation system that would include stops at various locations and would reduce traffic and parking, support businesses, and enhance Brea's image as a new hub to work and live.	Yes	No	Yes	Yes

7. Alternatives to the Proposed Project

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8. Impacts Found Not to Be Significant

California Public Resources Code Section 21003 (f) states: “...it is the policy of the state that...[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment.” This policy is reflected in the State California Environmental Quality Act (CEQA) Guidelines (Guidelines) Section 15126.2(a), which states that “[a]n EIR [Environmental Impact Report] shall identify and focus on the significant environmental impacts of the proposed project” and Section 15143, which states that “[t]he EIR shall focus on the significant effects on the environment.” Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the Draft EIR.

Impacts to agriculture and forestry resources, biological resources, geology and soils (except paleontological resources), hazards and hazardous materials, hydrology and water quality, mineral resources, and wildfire were determined to be less than significant during scoping for the EIR. The following sections provide the thresholds of significance and a brief analysis supporting the determination of no impact or less than significant impacts. Threshold letters correspond to the lettering in Appendix G of the CEQA Guidelines.

8.1 AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB). Would the project:

Would the project:

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

No Impact. The project site has no agricultural or farm use on it, nor is there agricultural or farm use in its immediate proximity. No project-related farmland conversion impact would occur. The project site is zoned C-G (General Commercial Zone) with a P-D (Precise Development) overlay (Brea 2020a). The project site is

8. Impacts Found Not to Be Significant

developed with an existing shopping plaza and is listed as Urban and Built-up Land (CDC 2016). Therefore, the project site is not mapped as important farmland by the California Department of Conservation (CDC 2016), and no impact would occur.

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

No Impact. The zoning designation for the project site is C-G (General Commercial Zone), with a P-D (Precise Development) overlay. The proposed project would not conflict with agricultural zoning or a Williamson Act contract because it is not zoned for agricultural use. Williamson Act contracts restrict the use of privately owned land to agriculture and compatible open space uses under contract with local governments; in exchange, the land is taxed based on actual use rather than potential market value. Since the project site is zoned for C-G with a P-D and is developed with an existing shopping plaza, there is no Williamson Act contract in effect on-site. No impact would occur.

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

No Impact. Project development would not conflict with existing zoning for forest land, timberland, or timberland production. Forest land is defined as “land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits” (California PRC § 12223 [g]). Timberland is defined as “land...which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees” (California PRC § 4526). The project site is zoned C-G (General Commercial Zone), with a P-D (Precise Development) overlay and is currently developed with an existing shopping center. No impact would occur.

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

No Impact. Vegetation on-site is limited to ornamental vegetation throughout the parking lot. Project construction would not result in the loss or conversion of forest land. No impact would occur.

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

No Impact. According to the California Important Farmland Finder, there is no important farmland or forest land on the project site or in the surrounding vicinity (CDC 2016). Project development would not indirectly cause conversion of such land to nonagricultural or nonforest use. No impact would occur.

8. Impacts Found Not to Be Significant

8.2 BIOLOGICAL RESOURCES

Plans, Programs, and Policies

Plans, programs, and policies (PPP) include applicable regulatory requirement and conditions of approval for aesthetic impacts.

PPP BIO-1 In compliance with the California Fish and Game Code, birds and their active nests are protected; therefore, the trees on-site would be removed outside of the nesting season, either prior to February 15 or after August 15.

Would the project:

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

Less Than Significant Impact. The project site is paved and developed with an existing shopping center. Vegetation of the site is limited to ornamental trees and ground cover in the parking lot. The project site is frequently disturbed by vehicles and people. There is no native habitat and no habitat suitable for sensitive species on-site. Any use of the site by sensitive species would be incidental foraging, which does not constitute habitat use. Impacts would be less than significant.

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

No Impact. Sensitive natural communities are natural communities that are considered rare in the region by regulatory agencies, are known to provide habitat for sensitive animal or plant species, or are known to be important wildlife corridors. Riparian habitats occur along the banks of rivers and streams. The project site is fully paved and developed with an existing shopping center; no sensitive natural community or riparian habitat is present on-site, and no impact would occur.

- c) **Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Less Than Significant Impact. Wetlands are defined under the federal Clean Water Act as land that is flooded or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally does support, a prevalence of vegetation adapted to life in saturated soils. Wetlands include playas, ponds, and wet meadows; lakes and reservoirs; rivers, streams, and canals; estuaries; and beaches and rocky shores (SCWRP 2019). According to the National Wetlands Mapper, there is a 0.24-acre freshwater emergent wetland and 0.21-acre riverine on the eastern boundary of the Brea Plaza Shopping Center, that traverses the parking lot from the northern to the southern boundary (USFWS 2020). However, the western

8. Impacts Found Not to Be Significant

portion of the project site—where the project would occur—is paved and developed. No development would occur on the eastern portion of the project site or in undeveloped areas of the site. Therefore, impacts would be less than significant.

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

Less Than Significant Impact. There are several ornamental trees on-site, scattered throughout the parking lot, which could be used for nesting by birds protected under the California Fish and Game Code Sections 3503 et seq. California law, particularly relevant statutes in the Fish and Game Code (FGC), provide protections for birds and their active nests by prohibiting:

- Take of a bird, mammal, fish, reptile, or amphibian. (FGC § 2000)
- Take, possess, or needlessly destroy the nest or eggs of any bird. (FGC § 3503)
- Take, possess, or destroy any bird of prey in the orders Strigiformes (owls) and Falconiformes (such as falcons, hawks and eagles) or the nests or eggs of such bird. (FGC § 3503.5)
- Take or possess any of the 13 fully protected bird species listed in FGC § 3511.
- Take any nongame bird (i.e., bird that is naturally occurring in California that is not a game bird, migratory game bird, or fully protected bird). (FGC § 3800)
- Take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such bird, except as provided by rules or regulations adopted by the Secretary of the Interior under the Migratory Bird Treaty Act. (FGC § 3513)
- Take, import, export, possess, purchase, or sell any bird (or products of a bird), listed as an endangered or threatened species under the California Endangered Species Act unless the person or entity possesses an Incidental Take Permit or equivalent authorization from CDFW. (FGC §§ 2050 et seq.)

In compliance with the California Fish and Game Code, birds and their active nests are protected; therefore, the trees on-site would be removed outside of the nesting season, either prior to February 15 or after August 15 (see PPP BIO-1). Impacts would be less than significant with compliance with the California Fish and Game Code.

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

No Impact. The City of Brea does not have an ordinance protecting biological resources on private property. Street trees are protected under the municipal code, Chapter 12.20 (Brea 2020b). The trees on-site are on private property and are not street trees. No impact would occur.

8. Impacts Found Not to Be Significant

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

No Impact. The project site is in not within a natural community conservation plan or habitat conservation plan area. The project site does not contain sensitive biological resources, and there are no local policies protecting biological resources applicable to the site. No impact would occur.

8.3 GEOLOGY AND SOILS

Appendix G checklist question (f) regarding paleontological resources is addressed in Section 5.3, *Cultural Resources*.

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. According to Figure PS-4, *Geologic and Seismic Hazards*, of the General Plan, the project site is not in an Alquist-Priolo Zone (Brea 2003). The closest active fault is the Whittier Fault, approximately 1.7 miles to the northeast (CDC 2015). There is no potential for ground rupture on the project site caused by a known earthquake fault. Therefore, no impact would occur.

ii) Strong seismic ground shaking?

Less Than Significant Impact. As with the rest of southern California, the project site is expected to experience strong seismic ground shaking. The closest active fault is the Whittier Fault, approximately 1.7 miles to the northeast of the project site (CDC 2015). Although seismic activity from this fault could potentially affect the project site, the site is at no greater risk than the surrounding development and infrastructure.

Additionally, all structures built for the proposed project would adhere to the 2019 California Building Code (California Code of Regulations, Title 24, Part 2)(2019 CBC), which provides minimum standards to protect property and public welfare by regulating design and construction to mitigate the effects of seismic shaking and adverse soil conditions. Compliance with the standards of the 2019 CBC would reduce impacts from seismic ground shaking to a less than significant level.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction refers to loose, saturated sand or gravel deposits that lose their load supporting capability when subjected to intense shaking. Parts of the City of Brea are in the

8. Impacts Found Not to Be Significant

liquefaction zone; the project site is not within a liquefaction zone according to Figure PS-4 of the Brea General Plan (Brea 2003). Additionally, compliance with the 2019 CBC would ensure that seismic-related ground failure impacts to the proposed project would be less than significant.

iv) Landslides?

Less Than Significant Impact. Susceptibility of slopes to landslides and other slope failures depend on several factors that are usually present in combination—steep slopes, condition of rock and soil materials, presence of water, formational contacts, geologic shear zones, seismic activity, etc. The project site is not in an area designated as having a landslide potential, according to Figure PS-4 of the Brea General Plan (Brea 2003). The project site is relatively flat; therefore, it is unlikely that the site would be susceptible to landslide hazards.

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

Less Than Significant Impact. Erosion is a normal and inevitable geologic process whereby earthen materials are loosened, worn away, decomposed, or dissolved, and removed from one place and transported to another. The project site is paved and developed with an existing shopping center and ornamental vegetation. The project would implement structural and nonstructural best management practices before and during construction to control surface runoff and erosion to retain sediment on the project site. Once the proposed project is constructed, soil erosion would be controlled with improvements installed on the project site. Therefore, a less than significant impact would occur.

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

Less Than Significant Impact. As discussed in Section 8.3.a.iii and 8.3.a.iv, the project site is not in a liquefaction zone or an area designated as having a landslide potential.

Lateral spreading is a phenomenon where large blocks of intact, nonliquefied soil move downslope on a large liquefied substratum. The mass moves toward an unconfined area, such as a descending slope or stream-cut bluff, and has been known to move on slope gradients as little as one degree. The topography of the site is relatively flat, and lateral spreading would not result in significant impacts because the project site is not subject to liquefaction. Therefore, impacts from lateral spreading would be less than significant.

Subsidence of basins attributed to overdraft of groundwater aquifers or over pumping of petroleum reserves has been reported in various parts of southern California. According to the City of Brea General Plan, oil fields in Brea today contain wells and associated petroleum and natural gas facilities (Brea 2003). The proposed project would neither result in an overdraft of groundwater aquifers nor over pump petroleum reserves. Impacts to subsidence would be less than significant.

Additionally, compliance with the 2019 CBC would ensure that seismic-related ground failure impacts to the proposed project would be less than significant.

8. Impacts Found Not to Be Significant

- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?**

Less Than Significant Impact. Highly expansive soils swell when they absorb water and shrink as they dry, and can cause structural damage to building foundations and roads. Therefore, they are less suitable for development than nonexpansive soils. The proposed project would comply with the 2019 CBC would ensure that impacts as a result of expansive soils would be less than significant.

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

No Impact. The proposed project would not require the installation of a septic tank or alternative wastewater disposal system, but would utilize the local sewer system. Therefore, no impacts would result from soil conditions in relation to septic tanks or other on-site water disposal systems.

8.4 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

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

Less Than Significant Impact. Project construction would require small amounts of hazardous materials, including fuels, greases and other lubricants, and coatings such as paint. The handling, use, transport, and disposal of hazardous materials during the construction phase of the project would comply with existing regulations of several agencies—the United State Environmental Protection Agency, the Orange County Environmental Health Division, Occupational Safety and Health Administration, California Division of Occupational Safety and Health, and United State Department of Transportation.

The proposed project would include residential and nonresidential (office) uses. Project maintenance and operation may require the use of cleaners, solvents, paints, and other custodial products that are potentially hazardous. These materials would be used in relatively small quantities, clearly labeled, and stored in compliance with state and federal requirements. Moreover, the residents and employees of the proposed project may also use such products. With the exercise of normal safety practices, the proposed project would not create substantial hazards to the public or the environment. Therefore, a less than significant impact would occur.

Additionally, construction projects typically maintain supplies on-site for containing and cleaning small spills of hazardous materials. However, construction activities would not involve a significant amount of hazardous materials, and their use would be temporary. Furthermore, project construction workers would be trained on the proper use, storage, and disposal of hazardous materials. Operation of the site would not warrant use of hazardous materials in quantities that could result in hazardous conditions. All on-site activities during construction and operation would be required to adhere to federal, state, and local regulations for the management and disposal of hazardous materials. Therefore, transport, use, and/or disposal of hazardous

8. Impacts Found Not to Be Significant

materials during construction of new developments in accordance with the proposed project would be properly managed, and impacts would be less than significant.

- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Less Than Significant Impact. Construction projects typically maintain supplies on-site for containing and cleaning small spills of hazardous materials. Construction would also use equipment that would bring hazardous materials to the project site, including diesel, gasoline, paints, solvents cement, and asphalt. However, construction activities would be conducted in accordance with the Storm Water Pollution Prevention Plan (SWPPP) as part of the National Pollution Discharge Elimination System (NPDES) permit. The primary objective of the SWPPP is to identify, construct, implement, and maintain best management practices (BMPs) to reduce or eliminate pollutants in stormwater discharges and authorized nonstorm water discharges from the construction site. BMPs for hazardous materials may include, but are not limited to, off-site refueling, placement of generators on impervious surfaces, establishing cleanout areas for cement, etc. While the risk of exposure to hazardous materials cannot be eliminated, adherence to existing regulations would ensure compliance with safety standards related to the use and storage of hazardous materials and with the safety procedures mandated by applicable federal, state, and local laws and regulations. Compliance with these regulations would ensure that risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes associated with the proposed project and the potential for accident or upset is less than significant.

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

Less Than Significant Impact. The North Fullerton KinderCare is within 0.25 mile of the project site to the south. Operation of the proposed project would not generate hazardous emissions or require the handling of acutely hazardous materials, substances, or waste. Project operations would involve the use of potentially hazardous materials (e.g., solvents, cleaning agents, paints, pesticides) typical of residential and nonresidential uses; when used correctly, these would not result in a significant hazard to students or staff at the North Fullerton KinderCare. Therefore, the proposed project would result in a less than significant impact.

- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Less Than Significant Impact. The project site is not listed on the EnviroStor or GeoTracker databases (DTSC 2020; SWRCB 2020). Construction activities would occur within the boundaries of the project site. Three leaking underground storage tank (LUST) cleanup sites are located south of the project site. The first LUST cleanup site is at 2800 East Imperial Highway and it was completed and closed as of June 5, 2013; the second LUST cleanup site is at 2840 East Imperial Highway and is open, with remediation taking effect as of November 1, 2010; and the third LUST cleanup site is on Imperial Highway and Associated Road (at the

8. Impacts Found Not to Be Significant

Arco Station), and it was completed and closed as of April 17, 1985 (SWRCB 2020). Therefore, a less than significant impact would occur.

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

No Impact. The project site is not within an airport land use plan or within two miles of a public use airport. The nearest public-use airport is the Fullerton Municipal Airport, approximately six miles southwest of the project site (Ainav 2020). Therefore, the proposed project would not result in a safety or noise hazard for people residing or working at the project site.

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

Less Than Significant Impact. The addition of project residents, employees, visitors, and patrons would be expected to increase the volume of vehicles leaving the shopping center in the event of an emergency, which could impede emergency vehicles from attempting to get into the shopping center. This issue is also discussed in Section 5.11, *Transportation*.

The proposed project would not conflict with adopted emergency response or evacuation plans, as the City does not have an evacuation or response plan related to the Brea Plaza Shopping Center. The surrounding roadways would continue to provide emergency access to the project site and surrounding properties during construction and postconstruction. The proposed project would comply with zoning, building, and fire codes, and the project applicant is required to submit appropriate plans for plan review prior to issuance of a building permit. Adherence to these requirements would ensure that the proposed project would not have a significant impact on emergency response and evacuation plans. Impacts are less than significant.

- g) **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 is in a highly urbanized, built-out portion of the City of Brea. According to CAL FIRE, the project site is not within a Very High Fire Hazard Severity Zone (CAL FIRE 2011). No impacts would occur.

8.5 HYDROLOGY AND WATER QUALITY

Would the project:

- a) **Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**

Less Than Significant Impact. The project site is within the jurisdiction of the Santa Ana Regional Water Quality Control Board. Drainage and surface water discharges during construction and operation of the proposed project would not violate any water quality standards or waste discharge requirements. However,

8. Impacts Found Not to Be Significant

site preparation and other soil-disturbing activities during construction of the project could temporarily increase the amount of soil erosion and siltation entering the local stormwater drainage system.

The project site is approximately 2.2 acres. Pursuant to Section 402 of the Clean Water Act, the US Environmental Protection Agency has established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct stormwater discharges. In California, the State Water Resources Control Board administers the NPDES permitting program and is responsible for developing permitting requirements. The NPDES program regulates industrial pollutant discharges, including construction activities for sites larger than one acre. Since implementation of the proposed project would disturb more than one acre, the proposed project would be subject to the NPDES Construction General Permit requirements (Order No. 2009-0009-DWQ).

Construction

Clearing, grading, and other construction activities associated with the project have the potential to impact water quality through soil erosion and increasing the amount of silt and debris carried in runoff. Additionally, the use of construction materials such as fuels, solvents, and paints may present a risk to surface water quality. To minimize these potential impacts, the proposed project would be required to comply with the NPDES Construction General Permit as well as the best management practices (BMPs) to control erosion and prevent any discharge of sediments from the site, as detailed in the preliminary water quality management plan (WQMP) (C.A. Engineering 2021a, see Appendix I), to reduce potential impacts to less than significant levels.

Operation

For site operations, the preliminary WQMP (see Appendix I) details structural BMPs, such as providing storm drainage system stenciling and signage and using efficient irrigation systems, as well as non-structural BMPs, such as educating property owners and tenants and managing landscape areas would be implemented. Therefore, a less than significant impact to water quality standards would occur.

The proposed project would also be required to comply with applicable federal, state, and local regulations. Provided that the standard BMPs are implemented, the proposed project would not substantially degrade water quality. A less than significant impact would occur.

b) 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. The project site is in the Coastal Plain of Orange County subbasin (DWR 2020). The project does not propose groundwater wells that would extract groundwater from the aquifer, nor would the proposed project affect recharge capabilities for the basin, as the site is fully developed as the Brea Plaza Shopping Center. Thus, a less than significant impact would occur.

8. Impacts Found Not to Be Significant

- c) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**

- i) **Result in a substantial erosion or siltation on- or off-site;**

Less Than Significant Impact. The proposed project would not alter the course of a stream or river. Although construction of the project would increase the potential for erosion and siltation, the improvements would be constructed over a short period of time, and BMPs would be implemented to reduce erosion and siltation impacts. Additionally, surface water drainage would be controlled by building regulations, with the water directed toward existing streets, flood control channels, storm drains, and catch basins. As the proposed project is subject to NPDES requirement, the applicant is required to submit a SWPPP to reduce erosion and sedimentation of downstream watercourses during project construction.

As stated in the preliminary WQMP, the drainage of the proposed project would generally follow the existing flows and the existing storm drain would be extended to the northern side of the proposed building to collect off-site flows and convey them to the existing box channel (C.A. Engineering 2021a). The onsite low flows would be collected via an area drain system and conveyed to a modular wetlands system unit for treatment before flowing into the detention pipe and the extended storm drain (C.A. Engineering 2021b, see Appendix H). Therefore, a less than significant impact to drainage would occur.

- ii) **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;**

Less Than Significant Impact. The project would not alter the course of a stream. Project implementation would result in construction of new residential, hotel, and office uses with landscaping and open space areas onsite. Through the use of BMPs pertaining to site design and low impact development, the proposed drainage system would be designed to maintain the proposed drainage patterns and stormwater runoff. Therefore, a less than significant impact to surface runoff would occur.

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

Less Than Significant Impact. Site design BMPs would minimize the impacts associated with impervious surfaces. The proposed drainage system would be designed to ensure that the proposed project would not exceed the capacity of existing or planned stormwater drainage systems. Impacts would be less than significant.

- iv) **Impede or redirect flood flows?**

Less Than Significant. The project site is developed with an existing shopping center. The proposed project would take place within the footprint of the project site, which is within Zone X (0.2 percent/500-year flood hazard) (Flood Insurance Rate Map ID #06059C0042J) (FEMA 2009). Since the

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likelihood of floods in the project site is low, the proposed project would have a less than significant impact on impeding or redirecting flood flows.

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

Less Than Significant Impact. A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. Thirteen dams in the greater Los Angeles area moved or cracked during the 1994 Northridge earthquake. However, none were severely damaged. This low damage level was due in part to completion of the retrofitting of dams and reservoirs pursuant to the 1972 State Dam Safety Act. According to Figure PS-3, Flooding Hazards, of the City of Brea General Plan, a dam/reservoir failure inundation pathway is in the residential neighborhood north of the project site (Brea 2003).

Figure PS-3 of the City of Brea General Plan shows that the Eastside Reservoir is approximately 1.6 miles northeast of the project site and is separated from the site by urban development (Brea 2003).

A tsunami is earthquake-induced flooding that is created from a large displacement of the ocean floor. The site is approximately 17.3 miles northeast of the Pacific Ocean and is not in a tsunami inundation area. The project is not at risk for tsunami impacts.

A mudflow is a landslide event in which debris, land mass, and soils are saturated during their displacement. The project site is relatively flat, with no slopes near the site that are capable of generating a mudflow. No mudflow impacts would occur.

Provided that the standard BMPs and those mentioned in the preliminary WQMP are implemented, the proposed project would not substantially degrade water quality. As impacts related to the occurrence of site inundation by seiche, tsunami, or mudflow are less than significant, the release of pollutants would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. The proposed project would not obstruct or conflict with the implementation of a water quality control plan or sustainable water management plan. The proposed project would comply with the water quality and use requirements of these plans through the implementation of BMPs. Therefore, impacts would be less than significant.

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8.6 MINERAL RESOURCES

Would the project:

- a) **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. There are four mineral resource zones (MRZ):

- **MRZ-1.** Adequate information indicates that no significant mineral deposits are present or likely to be present.
- **MRZ-2.** Adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence, and development should be controlled.
- **MRZ-3.** The significance of mineral deposits cannot be determined from the available data.
- **MRZ-4.** There is insufficient data to assign any other MRZ designation.

The project site is in MRZ-1, where significant mineral deposits are unlikely or not present (CDC 1994). Mineral resource designations are intended to prevent incompatible land use development on areas determined to have significant mineral resource deposits. The project site and its surrounding areas are not developed for mineral extractions. The project site is developed with an existing shopping center, and commercial and residential uses surround the site. Therefore, no loss of known resources would result from project implementation, and no impact would occur.

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

No Impact. No mining sites are identified in the City of Brea General Plan (Brea 2003). Therefore, development of the proposed project would not cause a loss of availability of a mining site. No impact would occur.

8.7 WILDFIRE

If located in or near a state responsibility area (SRA) or lands classified as a very high fire hazard severity zones:

Would the project:

- a) **Substantially impair an adopted emergency response plan or emergency evacuation plan?**

Less Than Significant Impact. The proposed project would not conflict with adopted emergency response or evacuation plans. The surrounding roadways would continue to provide emergency access to the project site and surrounding properties during construction and postconstruction. The proposed project would not

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result in inadequate emergency access, and impacts to adopted emergency response and evacuation plans are less than significant.

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

Less Than Significant Impact. There are three primary factors used in assessing wildfire hazards—topography, weather, and fuel. The project site is relatively flat and is in an urbanized environment. The proposed project would not impact weather or topography. At project completion, the project site would consist of impervious and pervious surfaces. Additionally, the project site is not within a Very High Fire Hazard Severity Zone according to CAL FIRE (CAL FIRE 2011). Therefore, impacts of exposing project occupants to pollutant concentrations from or exacerbating a wildfire would be less than significant.

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

Less Than Significant Impact. The proposed project would require utility connections and new infrastructure for electricity, natural gas, telecommunications, and cable service. As substantiated in Impact 8.7.b, the project site is located in a low to very low fire hazard area. The project site is in a highly urbanized portion of Brea; the proposed project would not add infrastructure such as roads or overhead power lines in areas with wildland vegetation. Therefore, impacts to exacerbating fire risks to the environment would be less than significant.

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

Less Than Significant Impact. The project site is relatively flat. The project site is not in an area designated as having a landslide potential (Brea 2003). Furthermore, the project site is within Zone X (0.2 percent/500-year flood hazard) (Flood Insurance Rate Map ID #06059C0042J) (FEMA 2009). Therefore, it is unlikely that the site would be susceptible to downslope or downstream flooding or landslides as a result of post-fire slope instability. The project site is not within a Very High Fire Hazard Severity Zone (CAL FIRE 2011). Impacts would be less than significant.

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8. Impacts Found Not to Be Significant

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9. Significant Irreversible Changes Due to the Proposed Project

Section 15126.2(c) of the CEQA Guidelines requires that an environmental impact report (EIR) describe any significant irreversible environmental changes that would be caused by the proposed project should it be implemented. Specifically, the CEQA Guidelines state:

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 of 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.

The following are the significant irreversible changes that would be caused by the proposed project, should it be implemented:

- Implementation of the proposed Brea Plaza Expansion Project would include construction activities that would entail the commitment of nonrenewable and/or slowly renewable energy resources; human resources; and natural resources such as lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, water, and fossil fuels. Operation of the proposed project would require the use of natural gas and electricity, petroleum-based fuels, fossil fuels, and water. The commitment of resources required for the construction and operation of the proposed project would limit the availability of such resources for future generations or for other uses during the life of the project.
- An increased commitment of social services and public maintenance services (e.g., police, fire, schools, libraries, and sewer and water services) would also be required. The energy and social services commitments would be long-term obligations in view of the low likelihood of returning the land to its original condition once it has been developed.
- An increase in vehicle trips would accompany project-related population growth. Over the long-term, emissions associated with such vehicle trips would continue to contribute to the South Coast Air Basin's nonattainment designation for ozone (O₃) and particulate matter (PM_{2.5} and PM₁₀) under the California and National Ambient Air Quality Standards (AAQS), and nonattainment for nitrogen dioxide (NO₂) under the California AAQS.
- The visual character of the project site would be altered by the construction of the new structure on-site. Additional landscaping, grading, and construction of the project site would also contribute to an altered

9. Significant Irreversible Changes Due to the Proposed Project

visual character of the existing site. This would result in a permanent change in the character of the project site and on- and off-site views in the project's vicinity.

Given the low likelihood that the land at the project site would revert to its original form, the proposed project would generally commit future generations to these environmental changes.

10. Growth-Inducing Impacts of the Proposed Project

Pursuant to Sections 15126(d) and 15126.2(d) of the CEQA Guidelines, this section is provided to examine ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also required is an assessment of other projects that would foster other activities which could affect the environment, individually or cumulatively. To address this issue, potential growth-inducing effects will be examined through analysis of the following questions:

- Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?
- Would this project result in the need to expand one or more public services to maintain desired levels of service?
- Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?
- Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

Please note that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which this project could contribute to significant changes in the environment, beyond the direct consequences of developing the land use concept examined in the preceding sections of this EIR.

Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?

Construction of the 189 dwelling units, 21,355-square-foot co-working office space, and 182,108-square-foot parking garage would not require the extension of major infrastructure facilities on the project site. The project site is currently developed with an existing shopping center and is located in an urban area served by existing infrastructure, including water and sewer mains and electricity and natural gas services.

The proposed project would require a zone change from General Commercial to Mixed Use I to allow for the development of the 189 residential units. Implementation of the Mixed Use I zone could further induce

10. Growth-Inducing Impacts of the Proposed Project

residential growth in the commercial areas. Pressure to develop other land in the surrounding area may derive from regional economic conditions and market demands for housing, commercial, office, and industrial land uses that may directly or indirectly be influenced by the proposed project. Proposals may arise to implement the Mixed Use I zone in the vicinity of the project site. However, these would require full environmental analysis of the impacts of such actions. The project does not propose changes to any of the City's building safety standards (i.e., building, grading, plumbing, mechanical, electrical, or fire codes) to implement this project. The proposed project would comply with all applicable City plans, policies, ordinances, etc. to ensure that there are no conflicts with adopted land development regulations and that any environmental impacts are minimized. Therefore, the proposed project, in and of itself, would not be a precedent-setting action; however, the approval of high-density residential uses on the project site could influence owners of neighboring properties to move away from exclusively commercial uses to mixed use and/or residential uses. Nonetheless, the impacts of subsequent similar actions would require environmental analysis and associated mitigation to ensure that such subsequent impacts would not significantly affect the environment.

Would this project result in the need to expand one or more public services to maintain desired levels of service?

The proposed project would increase population and housing in the city. The project is expected to increase demand for fire protection services, police services, school services, and library services, which would contribute to the need to expand facilities. However, as substantiated in Section 5.9, *Public Services*, and Section 5.13, *Utilities and Service Systems*, of the DEIR, existing programs and policies would ensure that the service capability will grow proportionate to the increase in uses. Impacts to public services and utilities would be less than significant.

Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?

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 be absorbed from the regional labor force, and the construction of the project would not attract new workers to the region. The operation of the proposed project would result in an increase of 405 residents and 49 employees (see Section 5.8, *Population and Housing*). Residents of the proposed project would seek shopping, entertainment, employment, home improvement, auto maintenance, and other economic opportunities in Brea 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. The close proximity to the commercial uses on-site and the surroundings, as well as Brea Mall and Brea Downtown, would result in beneficial impacts to the city's jobs-housing balance (see Section 5.9, *Population and Housing*). Therefore, although the proposed project would have a direct growth-inducing effect, indirect growth-inducing effects would be minimized due to the balance of land uses in the proposed project.

10. Growth-Inducing Impacts of the Proposed Project

Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

As identified above, the project would require a zone change to Mixed Use I to allow for development of 189 residential units. The Mixed Use I zone change could further induce residential growth in the predominantly commercial area. Proposals may arise to implement Mixed Use I zone in the vicinity of the project. However, these would require full environmental analysis of the impacts of such actions. The project does not propose changes to any of the City's building safety standards (i.e., building, grading, plumbing, mechanical, electrical, or fire codes) to implement this project. The project would comply with all applicable City plans, policies, ordinances, etc. to ensure that there are no conflicts with adopted land development regulations and that any environmental impacts are minimized. Therefore, the proposed project, in and of itself, would not be a precedent-setting action; however, the approval of high-density residential uses on the project site could influence owners of neighboring properties to move away from exclusively commercial uses to mixed uses and/or residential uses. Nonetheless, the impacts of subsequent similar actions would require environmental analysis and associated mitigation to ensure that such subsequent impacts would not significantly affect the environment.

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11. Organizations and Persons Consulted

Brea Olinda Unified School District

Richard Champion, Assistant Superintendent, Business Services

City of Brea Fire Department

Chris Nigg, Deputy Fire Marshal

Peter Salgado, Fire Protection Analyst

City of Brea Police Department

David A. Dickinson, Police Captain

Native American Tribes

Gabrieleno Band of Mission Indians – Kizh Nation

Rincon Band of Luiseño Indians

Juaneño Band of Mission Indians – Acjachemen Nation

Agua Caliente Band of Cahuilla Indians

11. Organizations and Persons Consulted

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