RECIRCULATED DRAFT

Orange Coast College Vision 2020 Facilities Master Plan Recirculated Program EIR

SCH No. 2013111026

AUGUST 2015

PREPARED FOR:

Coast Community College District
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Costa Mesa, CA 92626
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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ACOE	U.S. Army Corps of Engineers
amsl	above mean sea level
AQMP	Air Quality Management Plan
ASF	assignable square feet
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalARP	California Accidental Release Prevention (Program)
CalEEMod	California Emissions Estimator Model
CALGreen	California's Green Building Standards
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCCC	California Climate Change Center
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
CMP	Congestion Management Program
CNEL	community noise equivalent level
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2E	carbon dioxide equivalent
CPTED	Crime Prevention Through Environmental Design
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSU	California State University
dB	decibel
dBA	A-weighted decibel
EHS	Environmental Health and Safety Department
EIR	environmental impact report

EPA	U.S. Environmental Protection Agency
FAIA	Fellow of the American Institute of Architects
g/L	grams per liter
GHG	greenhouse gas
GSF	gross square feet
GWP	global warming potential
H_2O	water vapor
HABS	Historic American Buildings Survey
HFC	hydrofluorocarbon
I-405	Interstate 405
ICC	International Code Council
ICU	Intersection Capacity Utilization
IFC	International Fire Code
IR	Interpretation of Regulations
IS	Initial Study
ITE	Institute of Transportation Engineers
L_{10}	sound level exceeded for 10% of the measurement period
L_{50}	sound level exceeded for 50% of the measurement period
L_{90}	sound level exceeded for 90% of the measurement period
lb CO_2/MWh	pounds of CO_2 per megawatt-hour
LCFS	Low Carbon Fuel Standard
L_{dn}	day/night equivalent sound level
L_{eq}	equivalent sound level
LLG	Linscott, Law & Greenspan
L_{max}	maximum sound level during the measurement interval
L_{min}	minimum sound level during the measurement interval
LOS	level of service
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MBtu	thousand British thermal units
MLD	Most Likely Descendent
MMT	million metric ton
mpg	miles per gallon
MT	metric ton
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NB	northbound (traffic)
NF_3	nitrogen trifluoride

NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NREL	National Renewable Energy Laboratory
NRHP	National Register of Historic Places
O_3	ozone
OCC	Orange Coast College
OCTA	Orange County Transportation Authority
OPR	Governor's Office of Planning and Research
Pb	lead
PCB	polychlorinated biphenyls
PEIR	Program Environmental Impact Report
PFC	perfluorocarbon
PL	Public Law
PM_{10}	coarse particulate matter
$PM_{2.5}$	fine particulate matter
ppm	parts per million
PV	photovoltaic
RCRA	Resource Conservation and Recovery Act
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SAAAB	Santa Ana Army Air Base
SB	Senate Bill
SB	southbound (traffic)
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF_6	sulfur hexafluoride
SIC	Standard Industrial Classification
SO_2	sulfur dioxide
SO_x	sulfur oxides
SR	State Route
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
TDM	transportation demand management
TSM	transportation system management

U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
UST	Underground Storage Tank
V/C	volume to capacity
WQMP	Water Quality Management Plan

CHAPTER 1
EXECUTIVE SUMMARY

1.1 INTRODUCTION

The Coast Community College District (District), as Lead Agency, has prepared a Recirculated Draft Program Environmental Impact Report (PEIR) in accordance with the California Environmental Quality Act (CEQA) for the Orange Coast College Vision 2020 Facilities Master Plan (proposed project). The Recirculated Draft PEIR is a full recirculation of the original Draft PEIR released on June 16, 2014, by the District. Revisions have been made to the PEIR in response to public comment on the original Draft PEIR, resulting in a modified project and alternatives. Because the PEIR has been substantially revised and the PEIR is being recirculated, pursuant to CEQA Guideline 15088.5(f)(1), the District hereby requires interested agencies, organizations, and persons to submit new comments regarding the Recirculated Draft PEIR. The District will not respond to comments received during the earlier circulation period, and although part of the administrative record, the previous comments will not require a written response in the final PEIR. New comments must be submitted for the Recirculated Draft PEIR, and the District will respond only to those comments submitted in response to the Recirculated Draft PEIR.

Changes to the proposed project since the original Draft PEIR include the following:

- In addition to the prior preservation of the Stadium, Robert B. Moore Theater, and Music Buildings, preservation and reuse of the Neutra-designed Business Education row building and Haley Business Center in the campus core.
- Removal of the OC Fair & Event Center joint-use parking structure and location of a new parking structure on campus in the Adams Avenue parking lot.
- A new Dance Building in the campus core adjacent to the Robert B. Moore Theater.
- A modified location for the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office.
- A change in location for the Chemistry and Multidisciplinary Buildings.
- Clarification of the number of student housing beds (818 beds instead of 1,900 beds).
- Revision of the traffic impact analysis to incorporate project modifications and to respond to City of Costa Mesa comments.
- Revision to the OCC Village to remove a hotel use and clarify that this component would be subject to further CEQA review when a specific development plan is known.
- Further development of project alternatives to include more preservation alternatives, including Significant Reuse, Majority Reuse, Maximum Reuse, and Full Preservation Alternatives.

The Draft EIR is subject to a minimum 45-day public review period by responsible agencies and interested parties. Agency and public comments on the adequacy of the Draft PEIR and the lead agency's compliance with CEQA may be submitted to the District as lead agency, in writing, prior to the end of the public review period. Publication of the Draft EIR marks the beginning of a 45-day public review period, during which written comments may be submitted to:

Mr. Jerry Marchbank
Senior Director, Facilities, Planning, and Construction
Coast Community College District
1370 Adams Avenue
Costa Mesa, California 92626

Following the public review period, the District will prepare a Final PEIR, which will include responses to all written comments received during the Recirculated Draft PEIR public review period. The District's Board may use this Draft PEIR to consider approval of the proposed project, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts.

1.2 BACKGROUND

The District is updating its Facilities Master Plan for all three of its Orange County campuses: Orange Coast College (OCC), Golden West College, and Coastline Community College. The Vision 2020 Facilities Master Plan provides an analysis of the evolving student body and makes planning recommendations based on their educational needs. The District is undertaking a comprehensive improvement and building program to meet increasing enrollment and to make upgrades and repairs to existing buildings as well as to construct new facilities to improve the safety and educational experience of those attending the colleges in accordance with Measure M. Measure M was passed in November 2012 and issued $698 million in bonds to fund the expansion of courses and academic buildings in engineering, math, science, and technology, as well as to upgrade technologies, construct and repair facilities, and improve resources for active military personnel and veterans at all three District campuses.

1.3 PROJECT LOCATION

The proposed project is located on the existing OCC campus in the City of Costa Mesa, California, within the central portion of Orange County (Figure 3-1, Regional Location). Primary freeway access to the campus would be via Interstate 405 and State Routes 55 and 73, which are within minutes of the campus. OCC is bounded by Adams Avenue to the north, Fairview Road to the east, Merrimac Way to the south, and Harbor Boulevard to the west (see Figure 3-2, Local Vicinity).

1.4 PROJECT OBJECTIVES

The overall goal of the proposed project is to provide the optimal physical settings to support the District's academic mission. The intent of the proposed project is to develop modern teaching and learning facilities that would attract students to OCC while providing the physical resources necessary to support the educational process. With this overarching goal in mind, project objectives developed during the Vision 2020 Facilities Master Plan planning process are viewed through the OCC Educational Master Plan and Values (CLASS or Community, Learning, Access, Stewardship, and Student and Employee Engagement). An additional theme was added during the facilities planning Master Plan revision process (Non-Mission Critical) which includes preservation of the architectural history of the college and maintenance of the historical district.

Community

- Be consistent with Measures C and M/Communication to Constituents.
- Support Global and International Education.
- Provide joint venture and entrepreneurial opportunities that support the academic needs and mission of the college.

Learning – Quality of Education

- Provide long-term (beyond 2024) flexibility to support the educational mission.
- Provide modern teaching and learning facilities in terms of space, configuration, technology, and adjacencies.
- Provide on-campus student housing that provides access to learning, enhances student engagement, and enhances program offerings.
- Maintain consistency with the Vision 2020 Master Facilities Plan.

Access

- Provide a One-Stop Student Services Center.
- Increase navigability of the campus and enhance way finding.
- Enhance vehicular circulation.
- Enhance bike circulation.
- Enhance service vehicle circulation.

Stewardship

- Maintain capacity-load ratios that allow the College to remain competitive for State capital dollars.
- Provide long-term (beyond 2024) physical flexibility of campus space for strategic planning and constructability.
- Create defensible space (enhance lines of sight and eliminate hiding places) which will foster a sense of safety for campus users.
- Accommodate physical growth over the planning horizon (2024).
- Improve the total cost of ownership (initial cost, operating expenses for staffing and energy efficiency, and replacement cost).
- Reduce resource consumption and support environmentally responsible practices to change behavior in the campus community and beyond.
- Phase construction to minimize the need to move staff, faculty, and students more than once.
- Minimize the use and cost of temporary space.

Student and Employee Engagement

- Improve campus zoning (e.g., Student Services, Math and Science, Fine Arts, Athletics).
- Provide a hierarchy of exterior socialization spaces.
- Create defined/sustainable campus quad.

Other/Non-mission Critical

- Preserve architectural history of Orange Coast College Buildings.
- Maintain historic district (according to the Secretary of the Interior standards).

1.5 PROJECT DESCRIPTION

This section describes the various program- and project-level components of the proposed project evaluated in this Program EIR. Specific components include buildings and facilities and site improvements. Based on the information contained in the Vision 2020 Facilities Master Plan, some elements (identified below) would be assessed at the program level because specific project details are not known at this time. A few of these elements are dependent upon a future joint-venture partnership between the District and a developer yet to be identified. Project-specific plans would be developed after the joint venture is initiated. Other proposed project elements (identified below) have detailed information available and would receive project-level assessment.

The proposed project involves construction of approximately 1,238,542 assignable square feet (ASF) of new academic, administrative, residential, and parking facilities on the Orange Coast College campus at 2701 Fairview Road in Costa Mesa. In addition to new construction, the proposed project would involve the renovation of two existing buildings, totaling approximately 54,000 ASF and demolition of approximately 200,900 ASF. A new Planetarium and an 818-bed student housing project would be added to the campus. The proposed project would also involve improvements to the pedestrian circulation network in and around campus and the enhancement of open space areas through landscape and pedestrian plaza improvements. Construction of the proposed project would result in the reconfiguration of existing parking lots and vehicular entryways, and the addition of a parking structure in the Adams Avenue lot on campus.

Table ES-1 summarizes the assignable square footage per land use category of the project level components, as compared to what currently exists on campus.

Table ES-1
Buildings and Facilities – Plan to Ground Comparison

Buildings and Facilities (ASF)				
Category	*Existing Conditions*	*Proposed Construction*	*Proposed Demolition*	*Net Difference Proposed*
Academic	335,565	209,268	140,056	69,212
General administrative	120,278	127,170	45,328	81,842
Residential	0	229,650	0	229,650
Auxiliary	103,159	672,454	15,516	656,938
Recreational	88,601	0	0	0
Inactive	4,348	0	0	0
Subtotals	*651,951*	*1,238,542*	*200,900*	*1,037,642*

Source: Farrow, pers. comm. 2014; District 2015; Pagel, pers. comm. 2015; Dougherty + Dougherty Architects 2014.
Note: ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

1.5.1 Buildings and Facilities

The Vision 2020 Facilities Master Plan PEIR evaluates the renovation of existing buildings, the construction of new buildings and facilities on campus, and the demolition of existing buildings and facilities. Tables ES-2 through ES-5 summarizes the buildings and facilities proposed for new construction, renovation, and demolition.

Table ES-2
Vision 2020 Facilities Master Plan PEIR – New Construction of Buildings and Facilities (Project Level)

Building/Area	Category	Acres	Size (GSF[a])	Size (ASF[b])	Parking Spaces
Phase 1 (2015–2017)					
Planetarium	Academic	1.28	13,359	8,234	—
Recycling Center	Auxiliary/ Academic	4.28	7,771	7,086	45
Phase 2 (2017–2019)					
Student Union/Bookstore/Culinary Arts/Student Success Center	General Administrative /Academic	3.5	189,806	127,170	
Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office	Academic	3.1	98,477	49,581	—
Student housing (818 beds)	Residential	3.486	303,688	299,650	600
Phase 3 (2019–2024)					
Interdisciplinary Complex Phase 2 (Language Arts and Social Sciences Building)	Academic	0.825	107,760	77,587	—
Dance Building	Academic	0.76	32,000	20,000	---
Chemistry Building (New)	Academic	0.385	43,916	30,741	—
Unscheduled Projects					
Multidisciplinary Building	Academic	0.287	25,000	18,000	—
Parking Structure	Auxiliary	4.065	708,320	602,072	2,000

Source: Farrow, pers. comm. 2014; District 2015; Pagel, pers. comm. 2015; Dougherty + Dougherty Architects 2014.

[a] GSF (gross square feet) is the total area of building measured to the outside of exterior walls and includes, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas .

[b] ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

Table ES-3
Vision 2020 Facilities Master Plan PEIR – New Construction of Buildings and Facilities (Program Level)

Building/Area	Category	Acres	Size (GSF[a])	Size (ASF[b])	Parking Spaces
Unscheduled Projects					
OCC Village/Mixed-use development concept	Auxiliary	5.41	104,871	75,507	150

Sources: Farrow, pers. comm. 2014; District 2015, Pagel pers. comm. 2015; Dougherty + Dougherty Architects 2014.

Notes:

[a] GSF (gross square feet) is the total area of building measured to the outside of exterior walls, including outdoor covered areas at 50%.

[b] ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

Table ES-4
Vision 2020 Facilities Master Plan PEIR– Renovation of Buildings and Facilities

Building/Area	Category	Current Acres	Current Size (GSF[a])	Current Size (ASF[b])	Proposed Acreage	Proposed Size (GSF[a]	Proposed Size (ASF[b])	Parking Spaces (Current/ Proposed)
Phase 1 (2015–2017)								
Administration Renovation (Watson Hall)	General Administrative /Academic	0.33	58,603	35,329	0.33	58,603	35,329	—
Unscheduled Projects								
Skill Center	Academic	0.565	24,592	18,320	0.565	24,592	18,320	—

Source: Farrow, pers. comm. 2014; District 2015; Pagel pers. comm. 2015; Dougherty + Dougherty Architects 2014.
Notes:
[a] GSF (gross square feet) is the total area of building measured to the outside of exterior walls, including outdoor covered areas at 50%.
[b] ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

Table ES-5
Vision 2020 Facilities Master Plan PEIR – Demolition of Buildings and Facilities

Building/Area	Category	Acres	Size (GSF[a])	Size (ASF[b])
Phase 1 (2015–2017)				
Planetarium	Academic	0.055	2,380	1,309
Math Wing	Academic	0.393	17,118	11,589
Reprographics Center	Auxiliary	0.158	6,878	5,039
Phase 2 (2017–2019)				
Administration Building	General Administrative	0.310	13,487	9,939
District Transportation Office	General Administrative	0.200	8,698	7,970
Classrooms and Laboratories	Academic	0.245	10,673	8,129
Phase 3 (2019–2024)				
Journalism	Academic	0.243	10,593	6,698
Writer's Row	Academic	0.147	6,394	4,302
Student Success Center	Academic	0.306	13,350	8,459
Special Services	General Administrative	0.167	7,288	4,606
Social and Behavioral Sciences	Academic	0.426	18,570	12,659
150 Annex	Academic	0.082	3,570	3,319
Chemistry	Academic	0.771	33,580	20,989
Virgil D. Sessions Center for Literature and Languages	Academic	0.331	23,912	16,442
Bookstore	Auxiliary	0.205	8,947	8,211
Bursar's Office	General Administrative	0.075	3,286	2,518
Student Center	General Administrative	0.620	26,993	18,574
Campus Public Safety	Auxiliary	0.062	2,716	2,266
Gymnasium and Pool	Academic	0.662	28,880	26,483
Field House	Academic	0.206	9,010	3,907

Table ES-5
Vision 2020 Facilities Master Plan PEIR – Demolition of Buildings and Facilities

Building/Area	Category	Acres	Size (GSF[a])	Size (ASF[b])
Men's Locker Room	Academic	0.174	7,560	6,902
Women's Locker Room	Academic	0.282	12,280	8,869
Faculty House	General Administrative	0.046	2,023	1,721

Source: Farrow, pers. comm. 2014; District 2015; Pagel pers. comm. 2015; Dougherty + Dougherty Architects 2014.
Notes:
a GSF (gross square feet) is the total area of building measured to the outside of exterior walls, including outdoor covered areas at 50%.
b ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

1.5.2 Site Improvement Elements

Reconfigured Campus Entries at Monitor Way, Pirate Way, and Arlington Avenue. These entries from Fairview Road would be enhanced with the addition of formal gateways and marked pedestrian drop-off points. The enhancement of these entries would be coordinated with the construction of the Student Union/Bookstore/Culinary Arts/Student Success Center, Administration Building, and Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office in order to enhance the visibility of these facilities. **Pedestrian Circulation.** The proposed project builds on the existing pedestrian pathways, completing the pedestrian connectivity around the central quad. Pedestrian pathways are shown on Figure 3-5. Pedestrian nodes or plazas would include campus maps for way finding and seating for information interaction. Pedestrian pathways would be landscaped to signify that they are entryways into the campus. A third food service location would be added to the west side of campus, which would help create another student hub supporting that side of campus. **Infrastructure Improvements.** Existing water, gas, and electrical utilities would be rerouted and expanded in order to accommodate the proposed demolition and construction of new facilities.

1.6 PROJECT CONSTRUCTION

It is anticipated that planning, design, and construction of the proposed project's buildings and facilities would occur over four phases, which include Phases 1, 2, and 3, as well as an unscheduled construction phase. Various construction projects would occur in each of the four phases, including construction of academic buildings, housing, and parking facilities, as well as demolition of existing structures. Construction is further broken down into sub-phases for each phase depending on the type of development: demolition, site preparation, grading, trenching, building construction, paving, and architectural coating. A variety of equipment is used during each sub-phase of construction, including graders, crawler tractors, tractors/loaders/backhoes, trenchers, forklifts, cranes, welders, paving equipment, and air compressors. Construction would be performed by qualified contractors, and construction activities would be in compliance with the applicable permits and contract documents.

1.7 SUMMARY OF IMPACTS

Table ES-6 presents a summary of the environmental impacts that could result from the proposed project, proposed mitigation measures, and the level of significance of the impact after the implementation of the mitigation measures.

Table ES-6
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Aesthetics			
Scenic vista effects	No significant impacts.	No mitigation required.	N/A
Scenic resource damage	No significant impacts.	No mitigation required.	N/A
Visual quality/character degradation	**Impact AES-1:** Architectural and site design, for the proposed parking structure, that is not sensitive to the scale of the surrounding community could substantially degrade the existing character and could result in potentially significant aesthetic impacts. **Impact AES-2:** Impacts to the existing character of the site and surroundings associated with the future mixed-use development are considered potentially significant.	**MM-AES-1:** Architectural and site design of proposed structures shall consider the existing scale of the surrounding community and implement appropriate measures to reduce bulk and scale. Measures to be considered shall include the following: • Implementation of appropriate setbacks along sides of structures abutting or fronting public roadways. Setbacks shall strive to be consistent with setbacks displayed by existing development in the area. Building setbacks abutting public rights-of-way shall be landscaped (except for walks and driveways that provide access from a public right-of-way), and parking areas (including structures) shall be developed with perimeter landscaping. • Implementation of architectural design strategies to reduce the bulk and scale of new buildings abutting or fronting roadways. Strategies to consider include may include step-back design for future development above street level to reduce spatial impingement on adjacent roadways and suitably articulated architectural facades to provide visual interest. • Implementation of landscape plans featuring drought-tolerant planting material consisting of canopy trees, shrubs, and groundcover to soften the appearance of structure edges and	Less than significant

Table ES-6
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		continuous facades and relieve solid, unbroken elevations. Landscape plans shall be compatible with the architectural characteristics of the proposed structures and be visually compatible with the character of adjacent landscaping. Plant materials shall be suitable for the given soil and climatic conditions and shall consider species currently utilized in Orange Coast College (OCC) campus landscaping. • If adequate space is available, incorporation of landscape medians and streetscape amenities (or if currently present, enhanced) along segments of roadways abutting the future development site. Landscaping shall incorporate drought-tolerant planting materials including trees, shrubs, and groundcovers, and may consider species identified in the City of Costa Mesa Streetscape and Median Development Standards Recommended Street Tree Palette for Adams Avenue, Arlington Drive, Fairview Road, and Merrimac Way in order to create a consistent landscape theme along perimeter roadways. Landscape median development shall display a consistent theme and be visually compatible with existing landscaping and land-uses as well as with the landscape plan prepared for the proposed development site. Streetscape features shall include enhanced sidewalk paving, raised and/or cut-out planters suitable for shrubs and street trees, seating, lighting, and other features in a cohesive and visually appealing	

Table ES-6
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
			design that establishes a perceptible thematic image that visually unifies architecture and exterior streetscape spaces. • Future on-campus facilities shall strive to utilize a unifying architectural style that contributes to a unified campus appearance and reflects a consistent architectural character among existing campus facilities in the immediate area.	
		MM-AES-2:	The Coast Community College District (District) shall prepare lighting and signage plans depicting the proposed locations and heights of light poles and signs. The District shall incorporate lighting design specifications to ensure safety and security while also providing adequate illumination for intended uses. The following measures shall be included in all lighting plans: • Luminaires shall be designed with cutoff-type fixtures or features that cast low-angle illumination to minimize incidental spillover of light onto adjacent off-campus properties. Fixtures that shine light upward or horizontally shall not spill any light onto adjacent off-campus properties. • Luminaires shall provide accurate color rendering and natural light qualities. Low-pressure sodium and high-pressure sodium fixtures that are not color-corrected shall not be used, except as part of an approved sign or landscape plan. • Luminaire mountings shall be downcast and pole heights minimized to reduce potential for back	

Table ES-6
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		scatter into the nighttime sky and incidental spillover light onto adjacent properties. Luminaire mountings shall be treated with non-glare finishes. • All exterior lighting within 200 feet of residentially zoned property shall be shielded and/or directed away from residential areas.	
New source of light or glare	No significant impacts.	No mitigation required.	N/A
Cumulative aesthetic and/or lighting impact	No significant impacts.	No mitigation required.	N/A
		Air Quality	
Applicable air quality plan	No significant impacts.	No mitigation required.	N/A
Projected air quality violation	No significant impacts.	No mitigation required; however, mitigation measure MM-AQ-1, would further minimize less-than-significant impacts associated with fugitive dust generation. **MM-AQ-1:** The following measures shall be adhered to during the architectural coating phases of project construction to reduce volatile organic compound (VOCs) emissions from activities during Phases 2 and 3: a) The Coast Community College District (District) shall procure architectural coatings from a supplier in compliance with the requirements of South Coast Air Quality Management District (SCAQMD) Rule 1113 (Architectural Coatings). b) The architectural coating phase of the student housing Project shall occur over a 35-day duration, or the coating application rate should be limited to 23,420 square feet a day. c) The architectural coating phase of the Adaptive	Less than significant

Table ES-6
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		Physical Education, Gymnasium, Pool Facilities, and Division Office shall occur over a 20-day duration, or the coating application rate should be limited to 9,990 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter. d) The architectural coating phase of the Student Union shall occur over a 30-day duration, or the coating application rate should be limited to 12,650 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter. e) The architectural coating phase of the Language Arts Building shall occur over a 10-day duration, or the coating application rate should be limited to 21,550 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter. f) The architectural coating phase of the Dance Building shall occur over a 10-day duration, or the coating application rate should be limited to 6,400 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter. g) The architectural coating phase of the Chemistry Building shall occur over a 10-day duration, or the coating application rate should be limited to 8,780 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter.	

Table ES-6
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		MM-AQ-2: Consistent with SCAQMD Rule 403, it is required that fugitive dust generated by grading and construction activities be kept to a minimum, with a goal of retaining dust on the site, by following the dust control measures listed as follows: a) During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease. b) During construction, water truck or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas later in the morning, after work is completed for the day, and whenever winds exceed 15 miles per hour (mph). c) Soil stockpiled for more than 2 days shall be covered, kept moist, or treated with soil binders to prevent dust generation. d) Speeds on unpaved roads shall be reduced to less than 15 mph. e) All grading and excavation operations shall be halted when wind speeds exceed 25 mph. f) Dirt and debris spilled onto paved surfaces at the project site and on the adjacent roadways shall be swept, vacuumed, and/or washed at the end of each workday. g) Should minor import/export of soil materials be	

Table ES-6
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		required, all trucks hauling dirt, sand, soil, or other loose material to and from the construction site shall be tarped and maintain a minimum 2 feet of freeboard. h) At a minimum, at each vehicle egress from the project site to a paved public road, a pad shall be installed consisting of washed gravel (minimum size: 1 inch) maintained in a clean condition to a depth of at least 6 inches and extending to a width of at least 30 feet and a length of at least 50 feet (or as otherwise directed by SCAQMD) to reduce trackout and carryout onto public roads. i) Review and comply with any additional requirements of SCAQMD Rule 403.	
Cumulatively considerable net increase	No significant impacts.	No mitigation required.	N/A
Exposure of sensitive receptors to substantial pollutant concentrations	No significant impacts.	No mitigation required.	N/A
Objectionable odors	No significant impacts.	No mitigation required.	N/A
Cumulative air quality impact	No significant impacts.	No mitigation required.	N/A
Biological Resources			
Adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species	**Impact BIO-1:** Impacts to special-status avian species with the potential to nest in ornamental trees would be potentially significant.	**MM-BIO-1:** If construction activities are scheduled to take place adjacent to potential bird nesting habitat during the general bird breeding season (i.e., February 1 through August 31), a nesting bird survey shall be conducted by a qualified biologist to determine the presence of nests[1] or nesting birds within 300 feet	Less than significant

[1] A "nest" is defined as a structure or site under construction or preparation, constructed or prepared, or being used by a bird for the purpose of incubating eggs or rearing young. Perching sites and screening vegetation are not part of the nest.

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		(500 feet for raptors) (given the level of disturbance associated with the project area) of the construction activities. The nesting bird survey shall be completed no more than 72 hours prior to any construction activities. The survey will focus on special-status species known to use the area as well as other nesting birds that are protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. If an active nest[2] (defined by the presence of eggs or young) is identified, grading or site disturbance within an appropriate buffer (e.g., 500 feet for raptors and 250 feet for other birds) of the nest shall be monitored by a qualified biologist regularly until project activities are no longer occurring within the required avoidance buffer of the nest or until fledglings become independent of the nest. All staging and construction equipment access routes shall be located away from nesting birds at all times. The monitoring biologist may adjust the buffer radius if he or she determines it is necessary. The monitoring biologist shall halt construction activities determined to be disturbing nesting activities. The monitor shall make practicable recommendations to reduce the noise or disturbance in the vicinity of the nest. This may include recommendations such as (1) turning off	

[2] An "active nest" is defined as a structure or site where birds have begun constructing, preparing, or using a nest for egg-laying. A nest is no longer an active nest if abandoned by the adult birds or once nestlings or fledglings are no longer dependent on the nest.

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		vehicle engines and other equipment whenever possible to reduce noise, (2) working in other areas until the young have fledged, or (3) placing noise barriers to maintain the noise at the nest to 60 A-weighted decibels (dBA) equivalent level (L_{eq}) hourly or less or to the pre-construction ambient noise level if that exceeds 60 dBA L_{eq} hourly. The on-site biologist will review and verify compliance with these nesting boundaries and will verify that the nesting effort has finished. Construction activities restricted by this measure can resume when no other active nests are found within the restricted area.	
Adverse effect on any riparian habitat or other sensitive natural community	No significant impacts.	No mitigation required.	N/A
Adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act	No significant impacts.	No mitigation required.	N/A
Interfere with 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	No significant impacts.	No mitigation required.	N/A

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Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Conflict with any local policies or ordinances protecting biological resources	No significant impacts.	No mitigation required.	N/A
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 significant impacts.	No mitigation required.	N/A
Cumulative biological resource impact	No significant impacts.	No mitigation required.	N/A
Cultural Resources			
Adverse change in the significance of a historical resource	**Impact CUL-1:** The demolition, reconfiguration, and redesign would destroy all semblance of the historic character of the site and those qualities that convey the District's historical significance, period of significance, and eligibility to the California Register of Historical Resources and local City of Costa Mesa landmark list; potentially significant and unmitigable impacts to historical resources would result.	**MM-CUL-1:** A Historic Structures Report shall be prepared prior to any alteration, relocation, or demolition of any contributing buildings, structures, objects, features, or landscape elements located within the identified OCC Historic District. The work shall be completed by a qualified historic preservation professional who meets the requirements of the U.S. Secretary of the Interior's Professional Qualifications for history, architectural history, or historic architecture. The report shall be prepared in a manner consistent with the recommended approaches outlined in the National Park Service *Preservation Brief 43: The Preparation and Use of Historic Structures Reports*. The report shall document the significance and physical condition of all contributing buildings, structures, objects, features, and landscape elements with photographs, text narrative, and existing drawings.	Significant and unavoidable

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Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		This documentation shall include at a minimum: • A written historic and descriptive report completed in narrative format, including an architectural data form for each contributing resource. • A site plan showing the location of each building. This site plan shall include a photo key. • A sketch floor plan shall accompany each architectural data form. • Large format (4-inch x 5-inch or larger negative) photographs in accordance with Historic American Buildings Survey (HABS) guidelines and standards. Views shall include contextual views, all exterior elevations, details views of significant exterior architectural features, and interior views of significant historical architectural features or spaces. • Field photographs (digital) based on HABS guidelines to ensure full documentation of the site. Views should correspond to and augment those in the large format photographs. Such photographs shall be logged, tagged, and collected onto a media storage device for safe archiving. • Available historic photographs and historic and/or current as-built plans of the site and its contributing resources shall be reproduced digitally or photographically and included in the recordation document.	

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Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		One original copy of the documentation as specified above shall be assembled and offered, and archived if accepted, to each of the following entities: Southern California Information Center at California State University, Fullerton; Los Angeles Conservancy; University of California, Irvine; City of Costa Mesa Public Library; The Huntington Library, Art Collections, and Botanical Gardens; Neutra Institute for Survival Through Design; Orange County Archives; and the Costa Mesa Historical Society. **MM-CUL-2:** Prior to demolition of any contributing resources, including landscape elements, within the OCC Historic District, an inventory of significant exterior character-defining features, distinctive architectural elements, and materials shall be made by a qualified historic preservation professional who satisfies the U.S. Secretary of the Interior's Professional Qualifications for history, architectural history, or historic architecture. Where feasible these features shall be itemized, photographed, salvaged, and incorporated into the new design of the campus pursuant to the Vision 2020 Facilities Master Plan. To the extent salvageable materials exceed on-site reuse needs, they may be sold, donated, or exchanged for use elsewhere in the community. Unsound, decayed, or toxic materials (e.g., asbestos, etc.) need not be included in the salvage process. Some materials shall also be incorporated into an educational interpretive program as discussed as	

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Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
			part of the following mitigation measure. Salvage efforts shall be documented by summarizing all measures taken to encourage receipt of salvaged materials by the public.	
		MM-CUL-3:	To assist the students, faculty, parents, and other interested parties in understanding the early history of OCC, an interpretive multi-media educational program and 3-D public art display shall be incorporated into the development of the reconfigured campus quad area and/or campus library. This interpretive program and public art work shall be developed with the assistance of a qualified architectural historian or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualifications. Content and design of the interpretive program should be specific to OCC, specifically the architecture and historical development of the campus. The program/display may include but not be limited to: commemorative signage; plaques; enlarged and framed historic photographs; representative statues; salvaged materials; models; display of as-built plans and drawings; educational interactive CD software program; other relevant displays and exhibits; tours or events; and published information in the form of brochures, pamphlets, videos, electronic media, campus website, etc.	
Adverse change in significance of an archaeological resource	**Impact CUL-2:** Due to the unknown locations or depths of potentially significant	**MM-CUL-4:**	If unexpected, potentially significant archaeological materials are encountered during	Less than significant

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Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
	archaeological resources, grading and excavation could directly or indirectly destroy any archeological resources; impacts could be potentially significant.		construction, ground-disturbing activities shall be temporarily redirected or suspended until a qualified archaeologist is retained to evaluate the significance of the find. Unanticipated discoveries of significant cultural features would require handling in accordance with California Public Resources Code 5097.	
Destroy a unique paleontological resource or site or geologic feature	**Impact CUL-3:** Excavations into undisturbed Pleistocene-age deposits may unearth scientifically significant fossils at an indeterminate depth below the alluvial fan deposits during construction; impacts would be potentially significant.	**MM-CUL-5:**	Paleontological monitoring of earthmoving activities below five feet (an arbitrary depth below which Holocene age sediments are anticipated) will be conducted on an as-needed basis by the paleontological monitors under the supervision of an Orange County Qualified Paleontologist (principal investigator) during all earthmoving activities that may expose sensitive strata. If fossils are unearthed at a shallower depth, the monitoring program should be adjusted accordingly. Earthmoving activities in areas of the project area where previously undisturbed strata will be buried but not otherwise disturbed will not be monitored. The Principal Investigator or his/her assignee will have the authority to reduce monitoring once he/she determines the probability of unearthing fossils is lower than anticipated. If the excavations in undisturbed sediments will exceed five feet in depth, a qualified paleontological monitor should be present to observe earthmoving activities in these areas. Five feet is the general dividing point in this area after which monitoring should be initiated in sediments of high sensitivity, as determined by	Less than significant

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Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
			mapping, and in compliance with County of Orange guidelines. In areas of disturbed sediments on campus, a paleontological monitor should spot-check construction activities until such a time that it becomes possible to determine the depth of undisturbed native sediments or that no undisturbed sediments have been or will be impacted. Monitoring during any brushing or vegetation removal activities in artificial fill is not recommended.	
		MM-CUL-6:	If any subsurface fossils are found by construction personnel, activity in the immediate area should be suspended and the fossils should be left in place untouched. A qualified paleontologist should then evaluate the significance of the discovery and make further recommendations. Fossils that are considered unique under CEQA guidelines, Section V(c) of Appendix G (CEQA; California Public Resources Code, Section 21000 et seq.) should be collected, prepared, analyzed, reported, and curated.	
		MM-CUL-7:	If a fossil is discovered by a monitor during construction, the monitor must immediately notify the equipment operator and the construction manager to stop work, and then delineate the discovery area with flagging until it can be fully explored and evaluated. The paleontological monitor shall immediately notify the construction manager and the Principal Investigator.	

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Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		Construction activities in the immediate vicinity of the project area shall be immediately redirected away from the vicinity of the discovery to allow room for the recovery of the resources as necessary. Earthmoving will be allowed to proceed within the discovery site when the principal investigator determines the fossil discovery has been adequately documented and recovered. **MM-CUL-8:** All scientifically significant fossils collected during monitoring and salvage should be cleaned, repaired, sorted, and cataloged as part of the mitigation program. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, should be reposited (as a donation) at the John D. Cooper Archaeological and Paleontological Center at California State University, Fullerton. Donation of the fossils should be accompanied by financial support for initial specimen storage. A final summary report should be completed that outlines the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.	
Disturbance of human remains	No significant impacts.	No mitigation required.	N/A
Cumulative cultural resource impact	The proposed project would contribute to a cumulatively considerable impact associated with cultural resources due to the fact that demolition or removal of any	No feasible mitigation.	Significant and unavoidable

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
	historically designated building would impact the potential historic district.		
Geology and Soils			
Structures exposed to adverse effects			
i. Faulting ii. Strong seismic ground shaking iii. Seismic related ground failure including liquefaction iv. Landslides	No significant impacts.	No mitigation required.	N/A
Soil erosion or loss of topsoil	No significant impacts.	No mitigation required.	N/A
Located on or would cause unstable soil	No significant impacts.	No mitigation required.	N/A
Located on expansive soil	No significant impacts.	No mitigation required.	N/A
Cumulative geological resource or soil impact	No significant impacts.	No mitigation required.	N/A
Greenhouse Gases and Climate Change			
Generate direct or indirect greenhouse gas emissions	No significant impacts.	No mitigation required.	N/A
Conflict with a plan, policy, or regulation adopted to reduce greenhouse gas emissions	No significant impacts.	No mitigation required.	N/A
Hazards and Hazardous Materials			
Transport, use, disposal of hazardous materials	**Impact HAZ-1:** Due to the age of the buildings, demolition activities could result in the release of contaminated materials and hazardous substances such as lead-based paint or asbestos.	**MM-HAZ-1:** Prior to demolition, a lead-based paint and asbestos survey shall be conducted by a California Occupational Safety and Health Administration-certified asbestos assessor and California Department of Health Services-certified lead-based paint assessor. The survey shall determine	Less than significant

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
	Impact HAZ-2: Transport or disposal of soils from the project site could create a significant hazard to the public or the environment.	whether any on-site abatement of lead-based paint or asbestos containing materials is necessary. In addition, the survey shall include an abatement work plan prepared in compliance with local, state, and federal regulations for any necessary removal of such materials. The work plan shall include a monitoring plan to be conducted by a qualified consultant during abatement activities to ensure compliance with the work plan requirements and abatement contractor specifications. Demolition plans and contract specifications shall incorporate any necessary abatement measures for the removal of materials containing lead-based paint and asbestos to the satisfaction of the Planning and Building Department. The measures shall be consistent with the abatement work plan prepared for the project and conducted by a licensed lead/asbestos abatement contractor. If the survey and abatement plans have already been conducted/prepared, then these documents need to be reviewed and implemented prior to demolition of any buildings. In addition to an asbestos and lead paint survey, a qualified environmental specialist shall inspect the site buildings for the presence of polychlorinated biphenyls (PCBs), mercury, and other hazardous building materials prior to demolition. If found, these materials shall be managed in accordance with the Metallic Discards Act of 1991 (Public Resources Code, Sections 42160–42185) and other state and federal guidelines and	

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Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		regulations. Demolition plans and contract specifications shall incorporate any necessary abatement measures in compliance with the Metallic Discards Act, particularly Section 42175, Materials Requiring Special Handling, for the removal of mercury switches, PCB-containing ballasts, and refrigerants. **MM-HAZ-2:** In the event that grading, construction, or operation of proposed facilities encounters evidence of contamination, Underground Storage Tanks (USTs), or other environmental concerns, a hazardous materials contingency plan shall be followed. The plan shall (1) specify measures to taken to protect worker and public health and safety and (2) specify measures to be taken to manage and remediate wastes. Although there is potential for soil contamination elsewhere on the property, the plan should highlight the current and former UST areas as potential areas of soil contamination. The plan should include the following: • Identification of the current and former UST locations and identification of the known soil contamination left in place near the former UST(s) • Procedures for temporary cessation of construction activity and evaluation of the level of environmental concern • Procedures for limiting access to the contaminated area to properly trained personnel	

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		• Procedures for notification and reporting, including internal management and local agencies (City of Costa Mesa Fire Department, County Environmental Health Department, air pollution control district, etc.), as needed • A worker health and safety plan for excavation of contaminated soil • Procedures for characterizing and managing excavated soils • Procedures for certification of completion of remediation. In addition to awareness of the contingency plan, grading and excavation staff shall be qualified or undergo training on how to identify suspected contaminated soil and USTs.	
Release of hazardous materials into environment	Same as above.	Same as above (MM-HAZ-1 and MM-HAZ-2).	Less than significant
Exposing school to hazardous materials	Same as above.	Same as above (MM-HAZ-1 and MM-HAZ-2).	Less than significant
Located on a hazardous materials site	Same as above.	Same as above (MM-HAZ-1 and MM-HAZ-2).	Less than significant
Near an airport or within an airport land use plan	No significant impacts.	No mitigation required.	N/A
Within vicinity of private airstrip	No significant impacts.	No mitigation required.	N/A
Impair emergency response	No significant impacts.	No mitigation required.	N/A
Wildland fires	No significant impacts.	No mitigation required.	N/A
Cumulative hazards or hazardous materials impact	No significant impacts.	No mitigation required.	N/A

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Hydrology and Water Quality			
Violate water quality standards Degrade water quality	**Impact HYD-1:** Potentially significant impacts could occur if contaminants are not identified and handled properly.	See MM-HAZ-1 and MM-HAZ-2.	Less than significant
Deplete groundwater supplies	No significant impacts.	No mitigation required.	N/A
Alter drainage pattern causing erosion Alter drainage pattern causing flooding	**Impact HYD-2:** Prior to the preparation of a Water Quality Management Plan (WQMP) that is consistent with guidance within the Orange County Drainage Area Management Plan (DAMP) and the City of Costa Mesa Local Implementation Plan to disclose best management practices (BMPs) and total maximum daily loads as a result of the expanded Recycling Center and the Student Housing Project, impacts could be significant; therefore, MM-HYD-1 is proposed to reduce impacts. **Impact HYD-3:** Prior to obtaining a General Industrial Permit, impacts could be potentially significant. **Impact HYD-4:** Prior to disclosing plans and measures for chemical management, impacts could be potentially significant.	**MM-HYD-1:** **Water Quality Management Plans (WQMPs).** Prior to the Division of the State Architect (DSA) review and approval of building and development plans, the applicant shall submit for review and approval a project WQMP that: • Discusses regional or watershed programs including the Central Orange County Integrated Regional and Coastal Water Management Plan • Addresses site-design best management practices (BMPs) (as applicable) such as minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, creating reduced or "zero discharge" areas, and conserving natural areas • Incorporates the applicable source control BMPs as defined in the Drainage Area Management Plan (DAMP) • Incorporates treatment control BMPs as defined in the DAMP • Generally describes the long-term operation and maintenance requirements for the treatment control BMPs • Identifies the entity that will be responsible for long-term operation and maintenance of the treatment control BMPS	Less than significant

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		• Describes the mechanism for funding the long-term operation and maintenance of the treatment control BMPs. Prior to grading or building permit close-out and/or the issuance of a certificate of use or a certificate of occupancy, the applicant shall: • Demonstrate that all structural BMPs described in the project WQMP have been constructed and installed in conformance with approved plans and specifications • Demonstrate that the applicant is prepared to implement all non-structural BMPs described in the project WQMP • Demonstrate that an adequate number of copies of the project's approved final project WQMP are available for the future occupiers • Submit for review and approval an Operations and Maintenance Plan for all structural BMPs. **MM-HYD-2:** **Water Quality Plan for the Recycling Center Expansion.** For industrial facilities subject to California's General Permit for Storm Water Discharges Associated with Industrial Activity as defined by Standard Industrial Classification (SIC) code (including waste recycling facilities), prior to grading or building permit close-out and/or the issuance of a certificate of use or a certificate of occupancy, the Coast Community College District (District) shall submit a Notice of Intent to the State Water Resources Control Board and/or Santa Ana Regional Water Quality Control Board and maintain	

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		on file at all times a copy of the notification of the issuance of a Waste Discharge Identification Number or other proof of filing. **MM-HYD-3:** **Chemical Management Plans.** Prior to issuance of certificates of use and occupancy or building permits, uses shall be identified and, for specified uses, the applicant shall propose plans and measures for chemical management (including, but not limited to, storage, emergency response, employee training, spill contingencies, and disposal). The chemical management measures shall be incorporated as an element of a project WQMP and shall be subject to the approval of the DSA and other specified agencies, such as the Orange County Fire Authority, the Orange County Health Care Agency, and sewer agencies (as appropriate), to ensure implementation of each agency's respective requirements. Occupancy certificates or permits may be withheld if features needed to properly manage chemicals cannot be incorporated into a previously completed building, center, or complex.	
Excess runoff water	No significant impacts.	No mitigation required.	N/A
Introduction of housing within flood hazard area	No significant impacts.	No mitigation required.	N/A
Introduction of structures to redirect flood flows	No significant impacts.	No mitigation required.	N/A
Loss, injury, or death due to dam inundation	No significant impacts.	No mitigation required.	N/A

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Seiche, tsunami, mudflow	No significant impacts.	No mitigation required.	N/A
Cumulative hydrology or water quality impact	**Impact HYD-5:** Potentially significant cumulative impacts could occur if water is used in a wasteful manner.	**MM-HYD-4:** **Water Conservation.** Orange Coast College (OCC) Vision 2020 Master Plan (proposed project) facilities shall be designed, constructed, and operated in compliance with Mesa Consolidated Water District Ordinance 19 and Ordinance 21 (MCWD Water Conservation Programs). The OCC Maintenance and Operations Department, as well as commercial tenants of leased property, shall be required to become familiar with and enforce, to the extent feasible and as applicable, the following restrictions and requirements: • Watering or irrigating of lawn, landscape, or other vegetated area with potable water is prohibited between the hours of 8:00 a.m. and 5:00 p.m. Pacific Standard Time on any day. If necessary, and for very short periods of time for the express purpose of adjusting or repairing it, one may operate an irrigation system during the otherwise restricted period. • No person shall cause or allow watering or irrigating of any lawn, landscape, or other vegetated area in a manner that causes or allows excessive runoff from the property. • Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios, or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container; a hand-held hose equipped with a fully	Less than significant

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		functioning, positive self-closing water shut-off device; a low-volume, high-pressure cleaning machine equipped to recycle any water used; or a low-volume, high-pressure water broom. • Excessive use, loss, or escape of water through breaks, leaks, or other malfunctions in the Coast Community College District's (or a lessee's) plumbing or distribution system for any amount of time after such escape of water should have reasonably been discovered and corrected, and in no event more than 7 days after receiving notice from the MCWD, is prohibited. • Operating a water fountain or other decorative water feature that does not use recirculated water shall be prohibited. • Using water to wash or clean a vehicle shall be prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a fully functioning, positive self-closing water shut-off nozzle or device. • Eating or drinking establishments are encouraged not to provide drinking water to any person unless expressly requested. • Installation of single-pass cooling systems shall be prohibited in buildings requesting new water service. • Installation of non-recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems. • Food preparation establishments, such as	

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Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
			restaurants or cafes, are prohibited from using non-water-conserving dish wash spray valves. • After the MCWD has provided to the user an analysis demonstrating that recycled water is available, cost effective, and safe for the intended use, and the user has been given a reasonable time to make the conversion to recycled water, the use of potable water shall be prohibited. • Prior to the connection of any new commercial, industrial, or multi-residential water service, MCWD shall perform an evaluation to determine whether recycled water is available, cost effective, and safe for the intended use to supply all or some of the water needed by the new user. If available, cost effective, and safe for the intended use, recycled water must be used. These provisions shall be included in service contracts, leases, and/or other agreements between the Coast Community College District and other entities, as applicable, to ensure their implementation.	
Noise				
Noise in excess of established standards	**Impact NOI-1:** The proposed project could generate noise from construction that would be audible and would temporarily elevate the local ambient noise level to some degree at on-site distances greater than 100 feet from construction, and potentially significant impacts could result.	**MM-NOI-1:**	Prior to initiation of campus construction, the Coast Community College District shall approve a construction noise mitigation program including but not limited to the following: • Construction equipment shall be properly outfitted and maintained with feasible noise-reduction devices to minimize construction-	Less than significant

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Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
			generated noise. • Stationary noise sources such as generators or pumps shall be located away from noise-sensitive land uses if feasible. • Laydown and construction vehicle staging areas shall be located away from noise-sensitive land uses if feasible. • Whenever possible, academic, administrative, and residential areas that will be subject to construction noise shall be informed a week before the start of each construction project. • All construction projects pursuant to the proposed project would be required to implement the above measures for control of construction noise. The impact of traffic noise on future on-site uses would be less than significant; nonetheless, MM-NOI-2 is proposed to ensure that noise levels remain less than significant for sensitive receptors within the mixed-use development and student housing project.	
		MM-NOI-2:	For future noise-sensitive land uses, such as student housing that would be constructed under the proposed project, building and area layouts shall incorporate noise control as a design feature, if feasible. Noise control features could include increased setbacks (minimum of 30 feet from the centerline of the near lanes of Adams Avenue and Merrimac Way), landscaped berms, and building placement that would shield noise-sensitive exterior areas from direct	

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		roadway exposure. The campus may also use other noise attenuation measures, such as double-paned windows and insulation, in order to achieve an exterior community noise equivalent level of 55 A-weighted decibels (55 dBA CNEL).	
Excessive groundborne vibration or groundborne noise levels	No significant impacts.	No mitigation required.	N/A
Permanent increase in ambient noise levels	No significant impacts.	No mitigation required.	N/A
Temporary or periodic increase in ambient noise levels	**Impact NOI-1:** The proposed project could generate noise from construction that would be audible and would temporarily elevate the local ambient noise level to some degree at on-site distances greater than 100 feet from construction, and potentially significant impacts could result.	**MM-NOI-1:** Prior to initiation of campus construction, the Coast Community College District shall approve a construction noise mitigation program including but not limited to the following: • Construction equipment shall be properly outfitted and maintained with feasible noise-reduction devices to minimize construction-generated noise. • Stationary noise sources such as generators or pumps shall be located away from noise-sensitive land uses if feasible. • Laydown and construction vehicle staging areas shall be located away from noise-sensitive land uses if feasible. • Whenever possible, academic, administrative, and residential areas that will be subject to construction noise shall be informed a week before the start of each construction project. • All construction projects pursuant to the proposed project would be required to implement the above measures for control of construction noise.	Less than significant

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Exposing people residing or working in airport land to excessive noise	No significant impacts.	No mitigation required.	N/A
Exposing people residing or working in private airstrip to excessive noise	No significant impacts.	No mitigation required.	N/A
Cumulative noise impact	No significant impacts.	No mitigation required.	N/A
Population and Housing			
Induce substantial population growth	No significant impacts.	No mitigation required.	N/A
Displace existing housing	No significant impacts.	No mitigation required.	N/A
Displace existing people	No significant impacts.	No mitigation required.	N/A
Cumulative housing and/or population impact	No significant impacts.	No mitigation required.	N/A
Public Services			
Expansion of government facilities including:			
i. Fire	No significant impacts.	No mitigation required.	N/A
ii. Police	No significant impacts.	No mitigation required.	N/A
iii. Schools	No significant impacts.	No mitigation required.	N/A
iv. Parks	No significant impacts.	No mitigation required.	N/A
v. Libraries	No significant impacts.	No mitigation required.	N/A
Traffic and Circulation			
Conflict with applicable traffic performance standard	No significant impacts.	No migration required.	N/A
Conflict with applicable congestion management program	No significant impacts.	No mitigation required.	N/A
Change in air traffic patterns	No significant impacts.	No mitigation required.	N/A
Design feature hazards	No significant impacts.	No mitigation required.	N/A
Inadequate emergency access	No significant impacts.	No mitigation required.	N/A

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Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
Conflict with alternative transportation	No significant impacts.	No mitigation required.		N/A
Cumulative impact to transportation	No significant impacts.	No mitigation required.		N/A
		Utilities and Service Systems		
Exceed wastewater treatment requirements	No significant impacts.	No mitigation required.		N/A
Require construction of new water or wastewater facilities	**Impact UTL-1:** In the event that the proposed project uses water in a wasteful manner, potentially significant impacts could result.	See MM-HYD-4		Less than significant
Require construction of new drainage facilities	No significant impacts.	No mitigation required.		N/A
Insufficient water supplies	No significant impacts.	No mitigation required.		N/A
Adequate wastewater treatment capacity	**Impact UTL-2**: In the event that the project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments, the District would be required to pay applicable sewer infrastructure connection fees and applicable fair-share capital facilities fees to mitigate impacts to the sewer system.	**MM-UTL-1:**	Upon review of the final site engineering and design plans, the Coast Community College District (District) will coordinate with the Costa Mesa Sanitary District (CMSD) to determine whether the existing sewer lines have the capacity and are in good enough condition to handle the increase in wastewater flow. Prior to occupancy of the Orange Coast College (OCC) Vision 2020 Master Plan (proposed project) facilities, the District shall pay applicable Costa Mesa Sanitary District sewer infrastructure connection fees and applicable fair-share capital facilities fees, to the extent the payment of such fees is made necessary by the proposed project facilities.	Less than significant
Sufficient landfill capacity	**Impact UTL-3:** The County of Orange Waste & Recycling will require the completion and submittal of a construction and demolition waste	**MM-UTL-2:**	Prior to issuance of the final Certificate of Occupancy permit, the Coast Community College District (District) shall complete a construction and demolition waste reduction and recycling application and submit the	Less than significant

Table ES-6
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
	reduction and recycling application to the County for approval prior to issuance of the final Certificate of Occupancy permit for the site.	application to the County of Orange (County) Waste & Recycling for approval. The construction and demolition waste reduction and recycling application will identify and estimate the materials to be recycled during construction and demolition activities and will name the County-approved facility used to recycle the waste. Compliance with the plan will be a requirement in all construction contracts. The County-approved application will be attached to all construction plans and distributed to all construction contractors. Once construction is complete, the District will be responsible for preparing a tonnage report that demonstrates that the project recycled a minimum of 50% of its construction and demolition waste. The tonnage report must be submitted to and approved by the County prior to issuance of the final Certificate of Occupancy permit. Since this proposed project will be developed in phases over time, review and approval of the construction and demolition waste reduction and recycling application can be submitted by phase or building. However, for each demolition waste reduction and recycling application submitted and approved, a corresponding tonnage report should also then be submitted for approval.	
Conflict with solid waste regulations	No significant impacts.	No mitigation required.	N/A
Excessive use of fuel/energy?	No significant impacts.	No mitigation required.	N/A
Excessive use of power?	No significant impacts.	No mitigation required.	N/A
Cumulative public services and/or utilities impact	No significant impacts.	No mitigation required.	N/A

1.8 ANALYSIS OF ALTERNATIVES

1.8.1 Alternatives Considered

Five alternatives to the proposed project, including the No Project/Existing Master Plan Alternative, were considered in Chapter 6, Alternatives. The No Project Alternative is a required element of an EIR pursuant to Section 15126.6(e) of the CEQA Guidelines that examines the environmental effects that would occur if the project were not to proceed. The other alternatives are discussed as part of the "range of reasonable alternatives" selected by the District. The alternatives addressed in Chapter 6 are listed below, followed by a description of each:

1. No Project/Existing Master Plan
2. No Project/No Development
3. Significant Reuse
4. Majority Reuse
5. Maximum Reuse
6. Full Preservation

1.9 AREAS OF CONTROVERSY

Section 15123(b)(2) of the CEQA Guidelines requires the executive summary of an EIR to disclose areas of controversy known to the lead agency that have been raised by the agencies and the public. The District circulated a Notice of Preparation (NOP) to solicit agency and public comments on the scope and environmental analysis to be included in the EIR. A total of 10 comment letters were received during the NOP public review period. Copies of the NOP and the NOP comment letters received by the District are included in Appendix A to this EIR. The following issue was raised in the written responses to the NOP:

- Historic preservation of the Neutra-designed buildings on campus.

In the public meetings held during the DEIR public review period, additional areas of controversy were raised as follows:

- Increased traffic generated by the proposed campus' growth, recycling center, swap meet (not a project component, but part of the existing condition), and the OCC Village.
- Aesthetic, noise, traffic, and air quality concerns associated with the proposed shared parking structure on the State Fair Grounds.
- Concerns about the OCC Village, proposed land uses to be included in the OCC Village, proximity to the adjacent neighborhood, and lack of information about the design.

The District performed additional studies to address the concerns raised in the 2014 Draft EIR. These additional studies included:

- Additional traffic studies and expanded impact analysis (2015)
- Historical Structures Report (Page and Turnbull 2015)
- Parking Structure Bridge Analysis and Cost Impacts (Fall 2014)
- OCC Village Feasibility Study (2015)
- Watson Hall Renovation Study (2015)

Based on the additional reports and analysis, the District made the decision to revise its Vision 2020 Master Plan and recirculate the PEIR.

1.10 ISSUES TO BE RESOLVED BY LEAD AGENCY

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain a discussion of issues to be resolved. With respect to the proposed project, the key issues to be resolved include decisions by the District, as lead agency, as to:

- Whether this environmental document adequately describes the environmental impacts of the proposed project
- Whether the recommended mitigation measures should be modified and/or adopted
- Whether there are other mitigation measures or alternatives that should be considered for the proposed project besides those identified in the Draft EIR.

1.11 REFERENCES

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

Brailsford and Dunlavey Inc. 2014. *Housing and College Village Development Plan Report for Orange Coast College.* Final Report. May 2014.

California Public Resources Code, Section 21000–21177. California Environmental Quality Act (CEQA), as amended.

District (Coast Community College District). 2011. *Vision 2020 Facilities Master Plan*. Prepared by Cambridge West Partnership LLC and Hill Partnership Inc. May 2011.

District. 2015. *Amended Vision 2020 Facilities Master Plan*. Prepared by HPI. July 2015.

Dougherty + Dougherty Architects. 2014. Orange Coast College Recycling Center Square Footage Summary.

Farrow, J. 2014. OCC Building Square Footages. Email from J. Farrow (OCC Accounting/Fiscal Specialist) to C. Munson (Dudek). February 12, 2014.

OCC (Orange Coast College). 2012. *Atlas 2011–2012: A Compilation of Facts, Figures and Institutional Effectiveness Indicators for Orange Coast College*. November 2012. Accessed November 2013. http://www.orangecoastcollege.edu/about_occ/SiteAssets/Pages/College-Facts/Orange%20Coast%20College%20Atlas%202011-2012.pdf.

Pagel, R. 2015. Proposed project square footage and construction phasing. Email from R. Pagel (Vice President of Administrative Services at Orange Coast College) to R. Struglia (Dudek). June 4, 2015.

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CHAPTER 2
INTRODUCTION

2.1 PROJECT BACKGROUND

The Coast Community College District (District) is updating its Vision 2020 Facilities Master Plan (Facilities Master Plan) for all three of its Orange County campuses: Orange Coast College (OCC), Golden West College, and Coastline Community College. The Facilities Master Plan provides an analysis of the evolving student body and makes planning recommendations based on their educational needs. The District is undertaking a comprehensive improvement and building program to meet increasing enrollment and to make the upgrades and repairs of existing buildings as well as to construct new facilities to improve the safety and educational experience of those attending the colleges in accordance with Measure M. Measure M was passed in November 2012 and issued $698 million in bonds to fund the expansion of courses and academic buildings in engineering, math, science, and technology, as well as to upgrade technologies, construct and repair facilities, and improve resources for active military personnel and veterans at all three District campuses.

OCC is proposing to implement the Facilities Master Plan to more effectively meet the space needs of the projected on-campus enrollment through the next decade and beyond while constructing and renovating facilities in order to meet the District's instructional needs. The construction of new classroom and laboratory buildings and on-campus housing facilities, parking lot improvements, and construction of a parking structure would accommodate the projected increase in out-of-District students. Improved circulation in and around campus would increase accessibility to existing and new development, improve pedestrian and bicycle safety, and enhance the overall connectivity of campus uses. By pursuing joint venture and entrepreneurial opportunities the District could generate revenue and support the academic needs and mission of the campus.

This Recirculated Draft Program Environmental Impact Report (PEIR) evaluates the potential short-term, long-term, and cumulative impacts of the proposed OCC Vision 2020 Facilities Master Plan (proposed project). This PEIR has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (California Public Resources Code, Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.). Environmental impact reports (EIRs) are informational documents "which inform public agency decision makers and the public of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project" (14 CCR 15121). The purpose of this PEIR is to evaluate the environmental effects of the proposed project.

This PEIR is intended for use by both decision makers and the public. It provides relevant information concerning the potential environmental effects associated with the construction and operation of the project.

The District, as Lead Agency, has prepared a Recirculated Draft PEIR in accordance with CEQA for the Orange Coast College Vision 2020 Facilities Master Plan. The Recirculated Draft PEIR is a full recirculation of the original Draft PEIR released on June 16, 2014, by the District. Revisions have been made to the PEIR in response to public comment on the original Draft PEIR, resulting in a modified project and alternatives. Because the PEIR has been substantially revised and the PEIR is being recirculated, pursuant to CEQA Guideline 15088.5(f)(1), the District hereby requires interested agencies, organizations, and persons to submit new comments regarding the Recirculated Draft PEIR. The District will not respond to comments received during the earlier circulation period, and although part of the administrative record, the previous comments will not require a written response in the final PEIR. New comments must be submitted for the Recirculated Draft PEIR, and the District will respond only to those comments submitted in response to the Recirculated Draft PEIR.

Changes to the proposed project since the original Draft PEIR include the following:

- In addition to the prior preservation of the Stadium, Robert B. Moore Theater, and Music Buildings, preservation and reuse of the Neutra-designed Business Education row building and Haley Business Center in the campus core.
- Removal of the OC Fair & Event Center joint-use parking structure and location of a new parking structure on campus in the Adams Avenue parking lot.
- A new Dance Building in the campus core adjacent to the Robert B. Moore Theater.
- A modified location for the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office.
- A change in location for the Chemistry and Multidisciplinary Buildings.
- Clarification of the number of student housing beds (818 beds instead of 1,900 beds).
- Revision of the traffic impact analysis to incorporate project modifications and to respond to City of Costa Mesa comments.
- Revision to the OCC Village to remove a hotel use and clarify that this component would be subject to further CEQA review when a specific development plan is known.
- Further development of project alternatives to include more preservation alternatives, including Significant Reuse, Majority Reuse, Maximum Reuse, and Full Preservation Alternatives.

The District performed additional studies to address the concerns raised in the 2014 Draft EIR. These additional studies included:

- Additional traffic studies and expanded impact analysis (2015)
- Historical Structures Report (Page and Turnbull 2015)
- Parking Structure Bridge Analysis and Cost Impacts (Fall 2014)
- OCC Village Feasibility Study (2015)
- Watson Hall Renovation Study (2015)

Based on the additional reports and analysis, the District made the decision to revise its Vision 2020 Master Plan and recirculate the PEIR.

2.2 ENVIRONMENTAL PROCEDURES

2.2.1 CEQA Compliance

CEQA (California Public Resources Code, Section 21000 et seq.) requires the preparation and certification of an EIR for any project that a lead agency determines may have a significant effect on the environment. This PEIR has been prepared in compliance with all criteria, standards, and procedures of the CEQA Guidelines (14 CCR 15000 et seq.). This document has been prepared as both a project EIR (pursuant to Section 15161 of the CEQA Guidelines) and a program EIR (pursuant to Section 15168 of the CEQA Guidelines) and represents the independent judgment of the District's Board of Trustees as lead agency (14 CCR 15050).

2.2.2 Notice of Preparation and Scoping

CEQA establishes mechanisms whereby the public and decision makers can be informed about the nature of the project being proposed and the extent and types of impacts that the project and its alternatives would have on the environment should the project or alternatives be implemented. Pursuant to Section 15082 of the CEQA Guidelines, a Notice of Preparation (NOP) dated November 8, 2013, was circulated to interested agencies, organizations, and individuals. The NOP was also sent to the State Clearinghouse at the California Governor's Office of Planning and Research. The State Clearinghouse assigned a state identification number (SCH No. 2013111026) to this PEIR.

The NOP is intended to encourage interagency communication regarding the proposed project so that agencies, organizations, and individuals are afforded an opportunity to respond with specific comments and/or questions regarding the scope and content of the EIR. Pursuant to Section 15082 of the CEQA Guidelines, recipients of the NOP were requested to provide responses within 30 days after their receipt of the NOP. A public scoping meeting was held on the OCC campus on November 21, 2013, to gather additional public input on the scope of the environmental document. Approximately 15 persons attended the scoping meeting. The 30-day public scoping period ended on December 7, 2013. All comments received during the NOP public notice period and scoping meeting were considered during the preparation of this PEIR. Copies of the comment letters are included in Appendix A and are summarized in Table 2-1.

Table 2-1
Summary of Comments Received in Response to the NOP and Scoping Meeting

Commenting Agency or Property Owner	Written or Verbal Comment	Summary of Comment	PEIR Chapter Where Comment is Addressed
NOP Letters			
State Agencies			
California Department of Transportation, District 12	Written	Impacts on state highways and freeways, including ramps, should be analyzed using the Highway Capacity Manual method. An Encroachment Permit must be obtained for any work within or near state right-of-way. If there is construction on state right-of-way, a Traffic Management Plan for construction vehicles should be submitted to the California Department of Transportation in order to minimize the impacts to state highway facilities, particularly Interstate 405 and State Route 55.	Section 4.12, Traffic and Circulation
Native American Heritage Commission	Written	Requested an appropriate records search to determine known traditional cultural resource, and preparation of an archaeological inventory survey if required. A list of appropriate Native American contacts for consultation concerning the project site should be contacted. Mitigation plans should be included in the PEIR to identify and evaluate accidentally discovered archaeological resources pursuant to California Health and Safety Code Section 7050.5 and CEQA Section 15064.5(f). In addition, a mitigation plan for the discovery of Native American human remains should be included.	Section 4.4, Cultural Resources
South Coast Air Quality Management District	Written	Recommends that the CEQA Air Quality Handbook (1993) be used for all air quality analysis and California Emissions Estimator Model land use emissions software be used to estimate pollutant emissions from typical land use developments. Air quality impacts from project operations and construction should be calculated. The South Coast Air Quality Management District has developed regional and localized significance thresholds for criteria pollutants that should be compared to estimated proposed project emissions. A mobile source health risk assessment should be performed in the event that the proposed	Section 4.2, Air Quality Section 4.6, Greenhouse Gas Emissions

Table 2-1
Summary of Comments Received in Response to the NOP and Scoping Meeting

Commenting Agency or Property Owner	Written or Verbal Comment	Summary of Comment	PEIR Chapter Where Comment is Addressed
		project generates or attracts vehicular trips. The California Air Resources Board's *Air Quality and Land Use Handbook: A Community Perspective* is recommended as guidance for siting incompatible land uses. Several resources are recommended to assist in the drafting of mitigation measures in the event that the project generates significant adverse air quality impacts. CEQA requires that all feasible mitigation measures that go beyond what is required by the law be utilized during project construction and operation to minimize or eliminate these impacts. Any impacts resulting from mitigation measures must be discussed pursuant to CEQA Guidelines Section 15126.4(a)(1)(D).	
California Department of Fish and Wildlife	Written	Mentions that under the California Endangered Species Act, take of an endangered, threatened, or candidate species is prohibited and if any proposed project activities result in the take of any of these species, the project proponent must seek appropriate take authorization prior to implementation. It is recommended that a discussion of the purpose and need for the project; a description of the proposed project, including construction staging areas and access routes; and a range of feasible project alternatives be discussed in the PEIR. Makes recommendations of information to include in the PEIR in order to provide a complete assessment of the flora and fauna within and adjacent to the project area. Makes recommendations of information to include in the PEIR in order to provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources. Makes recommendations on how to draft mitigation for proposed project-related biological impacts.	Chapter 3, Project Description Section 4.3, Biological Resources
		Local Agencies	
City of Irvine	Written	The City of Irvine requests that the traffic analysis identify potential significant impacts for both an interim year as well as a buildout year and include the following intersections: • Red Hill Avenue and Main Street • Campus Drive and MacArthur Boulevard • Jamboree Road and MacArthur Boulevard	Section 4.12, Traffic and Circulation

Table 2-1
Summary of Comments Received in Response to the NOP and Scoping Meeting

Commenting Agency or Property Owner	Written or Verbal Comment	Summary of Comment	PEIR Chapter Where Comment is Addressed
		• Campus Drive and University Drive • California Avenue and University Drive	
City of Costa Mesa	Written	Expressed concerns regarding the quality of life impacts to adjacent and nearby residents (i.e., noise, air quality, light and glare) and the city as a whole (i.e., infrastructure, traffic). Requested that a traffic analysis be conducted for all related intersections within the City of Costa Mesa where the proposed project potentially increases the peak hour traffic by 50 trips.	Section 4.1, Aesthetics Section 4.2, Air Quality Section 4.9, Noise Section 4.12, Traffic and Circulation
City of Huntington Beach	Written	The City of Huntington Beach expresses gratitude for inclusion in the PEIR process.	N/A
		Organizations	
Mesa Del Mar Homeowners' Association	Written	Expressed concern regarding lack of mention of OCC's aviation program and medical studies training. Requested some level of curricula geared toward manual skills training. Requested elaboration on mixed-use center housing/retail development and multiple-family residential housing. Concerned about traffic generated from the proposed parking structure on the OC Fair & Event Center property at the corner of Fairview and Arlington Avenues. Concerned about the visual character of the site and the surroundings. Concerned regarding the increase in ambient noise levels as well as the lack of mention of TeWinkle Park, located 0.4 mile east of the OCC campus.	Chapter 3, Project Description Section 4.1, Aesthetics Section 4.9, Noise Section 4.12, Traffic and Circulation
		Individuals	
Barbara Lamprecht	Written	Expressed concern regarding buildings designed by master architect Richard Neutra. Request to reconsider the proposed project, which includes demolition of these buildings.	Section 4.4, Cultural Resources
John Linnert, local architect in Costa Mesa	Written	Expressed concern regarding buildings designed by master architect Richard Neutra. A complete analysis and study detailing the prospective rehabilitation/restoration, reuse, and/or repurposing all proposed removed structures should be provided in the PEIR. Request to provide a historical resource assessment for the OCC campus.	Section 4.4, Cultural Resources
		Scoping Meeting Notes	
John Linnert, local architect in Costa Mesa	Verbal	*(Reads comment letter from Barbara Lamprecht)* Summary of letter: • Buildings considered for demolition in the Vision 2020 Facilities Master Plan were designed by Robert E. Alexander under the	Section 4.4, Cultural Resources

Table 2-1
Summary of Comments Received in Response to the NOP and Scoping Meeting

Commenting Agency or Property Owner	Written or Verbal Comment	Summary of Comment	PEIR Chapter Where Comment is Addressed
		Neutra and Alexander architecture partnership. • Garrett Eckbo, landscape architect, was enlisted by Neutra and Alexander to design the OCC campus landscape. • OCC campus received an American Institute of Architects (AIA) Orange County 25-year award for its architectural excellence as well as the OC Award. • OCC campus provides a "landscape for learning." • By rehabilitating the buildings, OCC would establish a sustainable image. Mr. Linnert recommends that OCC reconsider its proposed Facilities Master Plan and thoroughly evaluate the significance of these buildings. Proposes the renovation of the Alexander/Neutra buildings for like use or repurposing the buildings. Mentions the Crystal Cathedral, which is being renovated by LPA Architects. Argues that these buildings are nationally and internationally acclaimed and it would diminish the integrity of the campus to demolish these buildings. These buildings contain sustainable features, including good use of natural light and ventilation, and demonstrate optimal orientation. Discusses the Mariner's Medical Arts (MMA) Building, and reads from the Historical Resource Assessment by Chattel Architecture. Neutra received an AIA Gold Medal for his design of the MMA Building and it is considered a Class I building under CEQA. Argues that the decision to rehabilitate these buildings would procure donations. Mr. Linnert mentions that the Neutra buildings were not mentioned in the Initial Study in the Historical Resources section. Mr. Linnert mentions several reuses of the Neutra buildings, which could include a "bicycle kitchen," napping rooms, education center, art gallery, reading rooms, dance classrooms, or a showroom for Neutra's work.	
Michael Mandelkern, PhD, Dean of OCC Literature and Languages	Verbal	Dr. Mandelkern asks whether these Neutra buildings are part of the assignable square footage and whether keeping these buildings would count against building more classrooms. Asks how Measure M funding would be affected by keeping these buildings. He asks whether this would require additional classrooms to be	Section 4.4, Cultural Resources

Table 2-1
Summary of Comments Received in Response to the NOP and Scoping Meeting

Commenting Agency or Property Owner	Written or Verbal Comment	Summary of Comment	PEIR Chapter Where Comment is Addressed
		constructed if repurposing of the Neutra buildings were to occur. Expresses concern as the construction of the Literature and Languages Building has been pushed back despite the program having one of the highest enrollments of all OCC programs. Emphasizes the importance of fitting construction and renovation into the culture and needs of the campus.	
Dennis Kelly, retired OCC professor	Verbal	Mr. Kelly explains when he began his career at OCC in 1974 he was made aware of the significance of these Neutra buildings. At the time, it was common practice to point out Neutra buildings to incoming professors and newly enrolled students at OCC. Explains that is the responsibility of the OCC president, Dr. Dennis Harkins, to revive this practice. Mentions that the Planetarium is also a Neutra building and that a nearby Jewish Community Center would be interested in housing the removed Planetarium. *Discussion of renovations already made to Neutra classrooms, including air-conditioning (AC) units and earthquake modifications (see comments from Doug Bennett and Dr. Richard Pagel for their contribution to this discussion). Question whether the historical integrity of the buildings has been compromised by these additions. John Linnert argues that these buildings have not lost historical significance and suggests that the AC units be removed from these buildings. Discusses Florida Southern College and their decision to repurpose their Frank Lloyd Wright buildings and describes the college's success from this decision.*	Section 4.4, Cultural Resources
Matthew Hess, OCC student	Verbal	Discusses the historical relevance and importance of the Neutra buildings and expresses concern regarding the demolition of these buildings. Also expresses his concern regarding walkways and corridors surrounding the demolition sites. Fears that demolition would interfere with pedestrian circulation.	Section 4.4, Cultural Resources; Pedestrian safety around construction sites is a Facility Management and contractor responsibility and this is not typically explicitly addressed in the EIR impact analysis.
Bristol Coon, OCC honors student	Verbal	Discusses the historical relevance and importance of the Neutra buildings and expresses concern regarding the demolition of these buildings. Suggests that these buildings be repurposed to house the honors program. Expresses his concern regarding localized air pollutants and toxic emissions from demolition activities and the impacts on sensitive receptors.	Section 4.2, Air Quality Section 4.4, Cultural Resources

Table 2-1
Summary of Comments Received in Response to the NOP and Scoping Meeting

Commenting Agency or Property Owner	Written or Verbal Comment	Summary of Comment	PEIR Chapter Where Comment is Addressed
Dr. Dennis Harkins, OCC President	Verbal	Mentions that OCC aims to be conscious of the past and stresses the importance of creating design standards that would create a cohesive campus image.	Section 4.1, Aesthetics
Michael Coon, local architect, OCC alumnus	Verbal	Discusses the historical relevance and importance of the Neutra buildings and expresses concern regarding the demolition of these buildings. Suggests adding solar power to facilities. Mr. Coon mentions their environmental and sustainable design features as advanced for their time of design and construction. He asks how the demolition of these buildings even came into discussion.	Section 4.4, Cultural Resources
Dr. Richard Pagel, OCC Vice President of Administrative Services	Verbal	Mentions the previous Facility Master Plans for 2000, 2010, and 2020. Explains that demolition of these buildings came into discussion because of a need for space. Mentions the Le Bard Stadium, Robert B. Moore Theatre, and Business Education Building and how their preservation demonstrates OCC's interest in preserving historical buildings. He also mentions that the Facilities Planning Committee does take historical preservation into consideration (Santa Ana Army Air Base). Mentions that AC units have been added to Neutra buildings.	Section 4.4, Cultural Resources
Doug Bennett, OCC Director of Communications and Marketing	Verbal	Mr. Bennett mentions earthquake retrofits that have been added to Neutra buildings, which may have impacted their historical relevance.	Section 4.4, Cultural Resources

2.2.3 Other Correspondence and Public Meetings

Post-scoping meeting and NOP comment period, correspondence continued via email between several concerned parties and OCC. The concerns were regarding the demolition of the buildings designed by master architect Richard Neutra. Doug Bennett, executive director of college advancement at OCC, sent a follow-up email to the Facilities Planning Committee that addressed comments made during the professional development meeting and scoping meeting. John Linnert responded to voice his opinion about incongruity between an article from the *Los Angeles Times* and OCC's plan to demolish the Richard Neutra buildings. Jim Carnett, OCC spokesman, said in the *Los Angeles Times* article that the Robert B. Moore Theatre, which was designed by "internationally known Richard Neutra," would remain intact and is "considered a historical landmark." Mr. Linnert raised the question as to why this Neutra building was considered a historical landmark and the Neutra buildings proposed to be demolished were not. Barbara Lamprecht responded to this email requesting a comprehensive assessment of the Neutra buildings in order to determine whether they are actually historically significant.

Whether or not the buildings are labeled as "historically significant," they may be modified in a way that maintains their essential integrity through slight modification for different usage than classroom space. Ideas were exchanged throughout the correspondence to identify a way to repurpose, reuse, or rehabilitate the Neutra buildings as best as possible. John Linnert suggested using the buildings as resource centers with academic counseling for military veterans returning from the wars in the Middle East. Suggestions were also made to convert the buildings into studios for the dance department or to use the buildings as bicycle storage.

Public Meetings

During the 45-day public review of the Draft PEIR in 2014, the District held a public meeting on June 30, 2014, in the Administration Building at Orange Coast College from 6:00 p.m. to 8:00 p.m. to gather comment on the Draft PEIR. In addition to the CEQA distribution list, the District distributed the Notice of Availability of the Draft PEIR and notice of the June 30, 2014, meeting to a list or property owners in a 500-foot radius around Orange Coast College. Approximately 20 people attended the meeting, and there was a wide range of comments on a number of aspects of the project including the OCC Village, the off-site parking structure at the OC Fair & Event Center, the student housing component, preservation of historic buildings on campus, the potential for traffic generation, noise generation, and light and glare associated with the proposed project. At the request of these meeting attendees, a second public meeting was held on July 15, 2014, at the Orange Coast College Library which ran for almost 3 hours. The District mailed the notice of the second public meeting to a 1-mile radius around Orange Coast College which included approximately 2,000 recipients. Approximately 100 people attended the meeting. Based on comment letters received on the 2014 Draft EIR and comments made during these public meetings, the District decided to revise the Master Plan and recirculate the Draft PEIR.

2.3 CONTENTS OF THE PEIR

In order to describe the direct, indirect, and cumulative impacts, as well as mitigation measures and alternatives for the proposed project, this PEIR is organized as follows:

- Chapter 1, Executive Summary, outlines the conclusions of the environmental analysis and a summary of the project as compared to the alternatives analyzed in the PEIR. This section also includes a table summarizing all environmental impacts identified in this PEIR along with the associated mitigation measures proposed to reduce or avoid each impact.

- Chapter 2, Introduction, serves as a forward to the PEIR, introducing the project background, the applicable environmental review procedures, and format of the PEIR.
- Chapter 3, Project Description, provides a thorough description of the proposed project components and required discretionary approvals.
- Chapter 4, Introduction to Analysis, includes a discussion of the approach to the analysis of potentially significant impact areas and an overview of the organization of each of these categories.
- Sections 4.1 through 4.13, Environmental Analysis, provides an analysis of the potentially significant environmental impacts identified for the proposed project, as well as proposed mitigation measures to reduce or avoid any potentially significant impacts. The following impact areas are discussed:

  4.1 Aesthetics

  4.2 Air Quality

  4.3 Biological Resources

  4.4 Cultural Resources

  4.5 Geology and Soils

  4.6 Greenhouse Gas Emissions

  4.7 Hazards and Hazardous Materials

  4.8 Hydrology and Water Quality

  4.9 Noise

  4.10 Population and Housing

  4.11 Public Services

  4.12 Traffic and Circulation

  4.13 Utilities and Service Systems.
- Chapter 5, Other CEQA Considerations, includes a summary of effects found not to be significant, which is a discussion of potential environmental topics that have been found, through the Initial Study process, to have a less than significant effect or no effect on the environment. This section also includes a summary of significant irreversible environmental changes, which addresses environmental areas where significant environmental effects cannot be avoided and any significant irreversible environmental changes that would result from implementation of the proposed project. The growth-inducing impacts associated with the proposed project are also discussed.

- Chapter 6, Alternatives, discusses five alternatives to the proposed project, including the No Project alternative, which would entail buildout of the (current) 2007 Master Plan.
- Chapter 7, List of Preparers.
- Appendices include various technical studies prepared for the proposed project, as listed below:

  Appendix A – Initial Study/NOP/Comments

  Appendix B – Air Quality and GHG Emission Calculations

  Appendix C – Biological Resources Letter

  Appendix D – Cultural Resources Reports

  Appendix E – Hazards Assessment

  Appendix F –Noise Calculations

  Appendix G – Traffic Impact Analysis.

2.4 REFERENCES

California Public Resources Code, Sections 21000–21177. California Environmental Quality Act (CEQA), as amended.

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

CHAPTER 3
PROJECT DESCRIPTION

This chapter includes a description of the existing Orange Coast College (OCC) campus; relevant history and background of the campus's planning efforts; and the planning principles and objectives developed for implementation of the Vision 2020 Facilities Master Plan (proposed project). This chapter also provides a detailed description of the purpose and need for the project, the major components and characteristics proposed, and a summary of the discretionary approvals required for implementation.

3.1 PROJECT LOCATION

The proposed project is located on the existing OCC campus in the City of Costa Mesa, California, within the central portion of Orange County (Figure 3-1, Regional Location). Primary freeway access to the campus would be via Interstate 405 and State Routes 55 and 73, which are within minutes of the campus. OCC is bounded by Adams Avenue to the north, Fairview Road to the east, Merrimac Way to the south, and Harbor Boulevard to the west (see Figure 3-2, Local Vicinity).

3.2 DESCRIPTION OF EXISTING CAMPUS

OCC occupies an approximately 160-acre site in the City of Costa Mesa in central Orange County. The project site is surrounded by the cities of Santa Ana to the north, Fountain Valley and Huntington Beach to the west, Newport Beach to the south, and Irvine to the east.

OCC, like most of Costa Mesa, is located on flat terrain (City of Costa Mesa 2002). The Santa Ana River passes 1.5 miles west of the campus and drains into the Pacific Ocean located 4 miles southwest of the campus. The Upper Newport Bay Nature Preserve, an estuary, located 1.5 miles southeast of campus, also drains into the Pacific Ocean. John Wayne International Airport is located 2 miles east from OCC.

The campus is located in an urbanized setting. North of the campus, across Adams Avenue, are high-density residential developments, and low-density residential developments are south of Merrimac Way. Costa Mesa High School and the Orange County (OC) Fair & Event Center are located to the east across Fairview Road, and commercial and residential development is located to the west of the campus along Harbor Boulevard. The Coast Community College District (District) headquarters is located on the north side of Adams Avenue just west of the Adams Avenue entry to the campus. OCC is accessible from the surrounding areas by three primary access points: Pirate Way, Monitor Way, and Arlington Drive.

OCC is one of three colleges of the District. Once part of the Santa Ana Army Air Base developed during World War II, OCC still remains under government ownership and is designated as Public/Institutional Land (City of Costa Mesa 2002). Currently, OCC houses more than 80 buildings and multiple recreational fields, which occupy 647,603 assignable square feet (ASF). In addition, there is 4,348 square feet of inactive space (District 2011). The northwest corner currently contains undeveloped land, some of which is used for parking. Classrooms and academic buildings are predominantly in the center to the south end of the campus. Athletic buildings and fields make up the majority of the northeast corner of the site. Parking lots are located all throughout the campus, but are mainly found along the perimeter. The OC Fair & Event Center parking lot across Fairview Road serves as additional off-site surface parking for students. An additional feature to this campus is the Recycling Center on the north side of the campus, which provides additional revenue to OCC. A map of the existing campus can be seen in Figure 3-3, Existing Campus Land Uses.

3.3 BACKGROUND AND PROJECT HISTORY

The District is updating its Facilities Master Plan for all three of its Orange County campuses: Orange Coast College, Golden West College, and Coastline Community College. The Board of Trustees reviewed and approved the amended Master Plan on July 15, 2015, capping a four-year process of developing the campus Master Plan. The Vision 2020 Facilities Master Plan provides an analysis of the evolving student body and makes planning recommendations based on their educational needs. The District is undertaking a comprehensive improvement and building program to make the upgrades and repairs of existing buildings as well as to construct new facilities to improve the safety and educational experience of those attending the colleges as well as to meet increasing enrollment in accordance with Measure M. Measure M was passed in November 2012 and issued $698 million in bonds to fund the expansion of academic buildings in, science, and technology, engineering, and math as well as to upgrade technologies, construct and repair facilities, and improve resources for active military personnel and veterans at all three District campuses.

The Draft EIR was originally circulated for public review on June 16, 2014 for 45 days by the District. The Recirculated Draft PEIR is a full recirculation of the original Draft PEIR released on June 16, 2014, by the District. Revisions have been made to the PEIR in response to public comment on the original Draft PEIR, resulting in a modified project and alternatives. Because the PEIR has been substantially revised and the PEIR is being recirculated, pursuant to CEQA Guideline 15088.5(f)(1), the District hereby requires interested agencies, organizations, and persons to submit new comments regarding the Recirculated Draft PEIR. The District will not respond to comments received during the earlier circulation period, and although part of the administrative record, the previous comments will not require a written response in the final PEIR. New comments must be submitted for the Recirculated Draft PEIR, and the District will respond only to those comments submitted in response to the Recirculated Draft PEIR. Changes to the proposed project since the original Draft EIR include the following:

- In addition to the prior preservation of the Stadium, Robert B Moore Theater, Music buildings, the revised project preserves and reuses the Alexander/Neutra-designed Business Education row building and Haley Business Center in the campus core;
- Removal of the OC Fair & Event Center joint use parking structure and location of a new parking structure on campus in the Adams Avenue parking lot;
- A new Dance Building in the campus core; adjacent to the Robert B. Moore theater
- A modified location for the Adaptive Physical Education, Gymnasium, Division Office, and Pool Facilities
- A change in location for the Chemistry and Multidisciplinary buildings
- Clarification of the number of student housing beds (818 beds instead of 1,900 beds);
- Revision of the traffic impact analysis to incorporate project modifications and to respond to City of Costa Mesa comments
- Revision to the OCC Village to remove a hotel use and clarify that this component would be subject to further CEQA review when a specific development plan is known
- Further development of project alternatives to include more preservation alternatives, including a Significant Reuse, Majority Reuse, Maximum Reuse, and Full Preservation Alternative.

3.4 VISION 2020 FACILITIES MASTER PLAN

Provided in this section is a description of the purpose and need of the proposed project, the planning concepts and objectives guiding development of the project, and an overview of the major characteristics of the proposed project which has a planning horizon of 2015 to 2024.

OCC is proposing to implement the proposed project to more effectively meet the space needs of the projected on-campus enrollment through the year 2020 and beyond while constructing and renovating facilities in order to meet the District's instructional needs. The construction of on-campus housing facilities, parking lot improvements, and construction of a parking structure would accommodate future student demand. Improved circulation in and around campus would increase accessibility to existing and new development, improve pedestrian and bicycle safety, and enhance the overall connectivity of campus uses. By pursuing joint venture and entrepreneurial opportunities, the District could generate revenue and support the academic needs and mission of the campus.

Campus Modernization

OCC is the District's oldest campus, with facilities dating to the early 1950s. The original campus concept supported a total student enrollment of 1,500 students, smaller buildings, which are outdated for today's instructional and student support needs. The intent is to replace these buildings in the inner core of campus with buildings that will support current academic subjects and programs. These buildings would alleviate the shortage of instructional space, partially due to student growth, while providing organization of campus facilities into common academic disciplines. Existing facilities would also be renovated in order to correct deficiencies and meet current academic needs.

OCC had an enrollment of 21,410 students in 2012 and is projected to grow to 28,332 students in 2020, representing a 0.84% annual average growth rate from the fall 2009 enrollment of 25,947 students (District 2011; OCC 2012). The Vision 2020 Facilities Master Plan identifies a need for an additional 100,000 ASF of academic space at OCC by 2020 to accommodate this growth.

Table 3-1
Orange Coast College Planning Projections

Timing	Headcount Student Enrollment
Fall 2012	21,410
Fall 2020	28,332

Sources: District 2011; OCC 2014.
Note: "Headcount Enrollment" represents the total number of students attending OCC, including online, day, and night classes.

Building construction and renovation would mainly support courses in transfer, general education, career education, technical education, and Science, Technology, Engineering and Math (STEM) in order to accommodate current enrollment trends. In the fall 2009 semester, weekly student contact hours were associated with courses in technology, business, computing, kinesiology/athletics, literature and languages, math and science, social and behavioral science, visual and performing arts, and consumer and health sciences (District 2011). The District proposes construction of a new Planetarium, a Language Arts and Social Sciences Building, a Multidisciplinary Building, Dance Building, Student Union/Bookstore/Culinary Arts/Student Success Center, and a new Chemistry Building.

Accommodate Community and Out-of-District Students

The Vision 2020 Facilities Master Plan and the 2012–2013 OCC Atlas examined enrollment trends for the fall semesters of the years 1999 and 2012 and concluded that there was an overall increase in the percentage of out of-district students from 41.9% to 49.3% in comparison to in-district students, which saw a decrease from 58.0% to 50.7%, as presented in Table 3-2. It is projected that there would be a 50–50 balance between in-district and out-of-district students in the future, which suggests an increase in commuting students (District 2011; OCC 2014).

Table 3-2
Orange Coast College Enrollment Trends by Location

Source/Location	Fall 1999	Fall 2012
In-district students	58.0%	50.7%
Out-of-district students	41.9%	49.3%

Source: District 2011; OCC 2014.

For the fall semester of 2012, the majority of student enrollment can be attributed to attendance in daytime classes, a combination of day and evening classes, and hybrid/online and other classes, as presented in Table 3-3 (OCC 2014). This indicates that the majority of enrolled students commute to the OCC campus. These trends indicate a student headcount enrollment annual growth percentage rate of 0.1% for online only, and online and other class types. This suggests that by 2024, online only, and online and other class types would account for 3.9% and 16.2% of student headcount enrollment.

Table 3-3
OCC Enrollment in Day, Evening, Weekend, and Online Classes for Fall 2010, 2011, and 2012

Class Type	Percentage of Student Headcount Enrollment		
	Fall 2010	*Fall 2011*	*Fall 2012*
Day Only	35.9	40.7	41.0
Day and Evening	29.7	27.8	27.8
Evening and Weekend	0.4	0.2	0.1
Evening Only	13.4	12.8	11.2
Weekend Only	0.4	0.2	0.2
Online Only	2.6	3.1	2.7
Hybrid/Online and Other	14.9	13.3	15.0
Day/Evening/Weekend	0.6	0.4	0.4
Other Combinations	2.1	1.5	1.5
Total Enrollments	**100**	**100**	**100**

Source: OCC 2014.

Student housing, reconfiguration of existing parking lots, and an on-site multilevel parking structure are proposed by the District to accommodate this trend.

Enhance On-Campus Circulation

The proposed project builds on the existing pedestrian pathways, completing the pedestrian connectivity around the central quad. Pedestrian nodes or plazas would include campus maps for wayfinding and seating for information interaction. Pedestrian pathways would be landscaped to signify that they are entryways into the campus. Vehicular entries from Monitor Way, Pirate

Way, and Arlington Avenue would be enhanced with the addition of formal gateways and marked pedestrian drop-off points. The campus also proposes improved bike transportation.

Increase Entrepreneurial Opportunities

The District would like to increase entrepreneurial activities that complement and support campus programs. The Recycling Center on the north side of campus is currently in use by residents of Costa Mesa. Improvements to this facility would include the expansion of the center and reconfiguration to alleviate traffic congestion on Adams Avenue. A mixed use development concept called the OCC Village is being developed and will be considered under separate CEQA review. A new Planetarium would not only serve as an educational resource for OCC students, but would also attract K–12 students and other visitors.

3.4.1 Project Objectives

The overall goal of the proposed project is to provide the optimal physical settings to support the District's academic mission. The Vision 2020 Facilities Master Plan proposes the development of modern teaching and learning facilities that would attract students to OCC while providing the physical resources necessary to support the educational mission of the college. With this overarching goal in mind, project objectives were developed during a planning process that involved multiple campus and public meetings with college faculty, staff, and administration. As part of this planning process, the college developed a set of project objectives and then assigned a weight to each objective and then ranked the proposed project and the alternatives using this ranking. As the Table 3-4 below shows, the highest ranked alternative was the original Vision 2020 Plan that was the subject of the 2014 Draft EIR. Based on public comment, the District revised the project to what is called the Strategic Reuse Alternative in Table 3-4 and that is the highest ranked alternative, followed by Alternatives 3, 4, 5, and 6, in that order. The objectives were given a weight based on whether it was a high priority objective for the college. High priority objectives include whether the alternative would provide long-term (beyond 2024) flexibility to support the educational mission, whether it would provide modern teaching and learning facilities, and whether the alternative increases navigability, wayfinding and safety for users. Also key for the college was whether the alternative would allow the college to maintain capacity-load ratios to remain competitive for State capital dollars and maximizing flexible use of space for future uses and constructability of future buildings.

Table 3-4
Orange Coast College Project Objectives and Ranking of the Proposed Project and Alternatives

Planning Criteria Objectives	1. Original Vision 2020			2. Strategic Reuse (Proposed Project)			3. Significant Reuse			4. Majority Reuse			5. Maximum Reuse			6. Full Preservation		
	Score	*Weight*	*Value*	*Score*	*Weight*	*Value*	*Score*	*Weight*	*Value*	*Score*	*Weight*	*Value*	*Score*	*Weight*	*Value*	*Score*	*Weight*	*Value*
1. Community																		
Consistent with Measure C & M / Communication to Constituents	1	3	3	1	3	3	1	3	3	1	3	3	1	3	3	1	3	3
Support Global and International Education	1	2	2	1	2	2	0.5	2	1	0.5	2	1	0	2	0	0	2	0
Provide joint venture and entrepreneurial opportunities that support the academic needs and mission of the college.	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	1	0
2. Learning – Quality Education																		
Provide long-term (beyond 2024) flexibility to support the educational mission	1	3	3	1	3	3	0.5	3	1.5	0	3	0	0	3	0	0	3	0
Provide modern teaching & learning facilities - space, configuration, technology, adjacencies	1	3	3	1	3	3	0	3	0	0	3	0	0	3	0	0	3	0
On-campus student housing that provides access to learning, enhances student engagement, enhances program offerings, etc.	1	3	3	1	3	3	1	3	3	1	3	3	0	3	0	0	3	0
Consistent with Vision 2020	1	2	2	0	2	0	0	2	0	0	2	0	0	2	0	0	2	0
3. Access																		
Provide one-stop Student Services Center	1	3	3	1	3	3	0	3	0	0	3	0	0	3	0	0	3	0
Increase navigability of the campus and enhance way finding	1	3	3	1	3	3	0.5	3	1.5	0	3	0	0	3	0	0	3	0
Enhance vehicular circulation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0
Enhance bike circulation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0
Enhance service circulation	1	1	1	1	1	1	0	1	0	0	1	0	0	1	0	0	1	0
4. Stewardship																		
Maintain capacity-load ratios that allow the College to remain competitive for State capital dollars	1	3	3	1	3	3	0.5	3	1.5	0.5	3	1.5	0	3	0	0	3	0
Provide long-term (beyond 2024) physical flexibility of campus space for strategic planning and constructability	1	3	3	1	3	3	0	3	0	0	3	0	0	3	0	0	3	0
Create defensible space (enhance lines of sight and eliminate hiding places) which will foster a sense of safety for campus users.	1	3	3	1	3	3	0	3	0	0	3	0	0	3	0	0	3	0
Accommodate physical growth over the planning horizon (2024)	1	2	2	1	2	2	1	2	2	1	2	2	1	2	2	1	2	2
Improved Total Cost of Ownership (initial cost, operating expenses(staffing & energy efficiency), replacement cost)	1	2	2	1	2	2	0.5	2	1	0	2	0	0	2	0	0	2	0
Reduce resource consumption and support environmentally responsible practices to change behavior in the campus community and beyond.	1	2	2	1	2	2	1	2	2	1	2	2	1	2	2	1	2	2
Phase construction to minimize the need to move staff, faculty and students more than once	1	2	2	1	2	2	1	2	2	1	2	2	0	2	0	0	2	0
Minimize the use and cost of temporary space	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0
5. Student & Employee Engagement																		
Improve campus zoning (e.g. Student, Math and Science, Fine Arts, Athletics, etc.)	1	3	3	1	3	3	0	3	0	0	3	0	0	3	0	0	3	0
Provide hierarchy of exterior socialization spaces	1	3	3	1	3	3	1	3	3	1	3	3	1	3	3	0	3	0
Create defined / sustainable campus quad	1	2	2	1	2	2	1	2	2	0	2	0	0	2	0	0	2	0
6. Other / Non-Mission Critical																		
Preserve Architectural History of Orange Coast College - Buildings	0.5	3	1.5	1	3	3	1	3	3	1	3	3	1	3	3	1	3	3
Maintain Historic District (according to the Department of Interior)	0	2	0	0	2	0	0	2	0	1	2	2	1	2	2	1	2	2
Total			**53.5**			**53**			**30.5**			**25.5**			**17**			**12**

Objective Weight:
1 = Lowest Priority Objective; 2 = Intermediate Priority Objective; 3 = Highest Priority Objective
Score:
1 = Acceptable/Meets Objective; 0 = Deficient/Does Not Meet Objective

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3.4.2 Proposed Project Overview

The proposed project involves demolition of certain existing buildings; the renovation of existing buildings; and the construction and eventual operation of new buildings and campus facilities as demonstrated in Figures 3-4 through 3-6. The proposed project would also involve improvements to the pedestrian circulation network in and around campus and the enhancement of open space areas through landscape and pedestrian plaza improvements. Construction of the proposed project would result in the reconfiguration of existing parking lots and vehicular entryways, and the addition of a parking structure in the Adams Avenue lot.

Prominent building characteristics include the demolition of approximately 200,900 ASF of existing buildings and facilities. Approximately 1,238,542 ASF of new academic, administrative, residential, and parking facilities would be constructed, which includes the expansion due to the renovation of existing buildings. New student housing beds (818) would be added to the campus. These developments would involve the support of private partners yet to be identified. Approximately 1,500 parking spaces would be provided from the construction of the new parking structure and the addition of other spaces throughout the campus.

3.4.3 Relationship to Existing Conditions and Vision 2020 Facilities Master Plan

The OCC campus currently has 651,951 ASF of building space. Table 3-5 summarizes the assignable square footage per land use category of the project level components, as compared to what currently exists on campus.

Table 3-5
Buildings and Facilities – Plan to Ground Comparison

Buildings and Facilities (ASF)				
Category	*Existing Conditions*	*Proposed Construction*	*Proposed Demolition*	*Net Difference Proposed*
Academic	335,565	209,268	140,056	69,212
General administrative	120,278	127,170	45,328	81,842
Residential	0	229,650	0	229,650
Auxiliary	103,159	672,454	15,516	656,938
Recreational	88,601	0	0	0
Inactive	4,348	0	0	0
Subtotals	*651,951*	*1,238,542*	*200,900*	*1,037,642*

Source: Farrow, pers. comm. 2014; District 2015, Pagel pers. comm. 2015; Dougherty + Dougherty Architects 2014.
Note: ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

The campus would increase the total parking spaces on campus as a result of the proposed project. A total of 9,832 parking spaces exist on campus (Pagel, pers. comm. 2014). Due to the construction of the student housing project, OCC Village, the Student Union/Bookstore/Culinary Arts/Student Success Center, and the renovation of Watson Hall (Administrative/Student Support) , 1,200 parking spaces would be lost. The Adams lot parking structure would result in a net gain of 1,500 parking spaces in a four-level parking structure. Buildout of the OCC Village and student housing project would introduce 150 and 600 spaces, respectively (Brailsford & Dunlavey 2014 and 2015). In addition, the Recycling Center Expansion would add a total of 45 spaces. A total of 2,287 parking spaces will be added, resulting in a net gain of 1,087 spaces and a total of 10,919 spaces.

3.5 VISION 2020 FACILITIES MASTER PLAN PEIR COMPONENTS

Provided in this section is a description of the various program- and project-level components of the proposed project evaluated in this Program Environmental Impact Report (PEIR). Specific components include buildings and facilities and site improvements. Based on the information contained in the Vision 2020 Facilities Master Plan, some elements (identified below) would be assessed at the program level because specific project details are not known at this time. A few of these elements (student housing) are dependent upon a future joint-venture partnership between the District and a developer yet to be identified. Project-specific plans would be developed after the joint venture is initiated. Other proposed project elements (identified below) have detailed information available and would receive project-level assessment.

All project and program elements are depicted on Figures 3-4 and 3-5. The description of each of the components is provided in this section and includes general information about the existing parcel proposed for development, detailed information regarding the development proposed, and how the project may relate to other program- or project-level components of the Vision 2020 Facilities Master Plan PEIR.

3.5.1 Building and Facilities

The Vision 2020 Facilities Master Plan PEIR evaluates the renovation of existing buildings, the construction of new buildings and facilities on campus, and the demolition of existing buildings and facilities. A map identifying the building and facility projects proposed for new construction or renovation and evaluated in this PEIR is provided on Figure 3-4.

3.5.1.1 Buildings and Facilities (New Construction)

3.5.1.1.1 Project Level

Table 3-6 summarizes project-level buildings and facilities proposed for new construction in the proposed project and included in this PEIR evaluation. Further detail is provided below according to the category of building or facility proposed.

Table 3-6
Vision 2020 Facilities Master Plan PEIR – New Construction of Buildings and Facilities

Building/Area	Category	Acres	Size (GSF[a])	Size (ASF[b])	Parking Spaces
Phase 1 (2015–2017)					
Planetarium	Academic	1.28	13,359	8,234	—
Recycling Center	Auxiliary/Academic	4.28	7,771	7,086	45
Phase 2 (2017–2019)					
Student Union/Bookstore/Culinary Arts/Student Success Center	General Administrative /Academic	3.5	189,806	127,170	
Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office	Academic	3.1	98,477	49,581	—
Student housing (818 beds)	Residential	3.486	303,688	299,650	600
Phase 3 (2019–2024)					
Interdisciplinary Complex Phase 2 (Language Arts and Social Sciences Building)	Academic	0.825	107,760	77,587	—
Dance	Academic	0.76	32,000	20,000	---
Chemistry Building (New)	Academic	0.385	43,916	30,741	—
Unscheduled Projects					
Multidisciplinary Building	Academic	0.287	25,000	18,000	—
Parking Structure	Auxiliary	4.065	708,320	602,072	2,000

Source: Farrow, pers. comm. 2014; District 2015, Pagel pers. comm. 2015; Dougherty + Dougherty Architects 2014.
[a] GSF (gross square feet) is the total area of building measured to the outside of exterior walls and includes, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas .
[b] ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

Planetarium

This proposed 8,234 ASF facility would be used by the college and the community and is sited to allow for public access from Parking Lot E. Construction would occur during Phase 1 (2015–2017).

Recycling Center Expansion and Circulation/Parking Improvements

The District proposes to expand the existing Recycling Center for the purposes of accommodating recycling demand in the City of Costa Mesa. The expansion would primarily enhance pedestrian and vehicular safety on approach to and within the Recycling Center. The proposed expansion would include a deceleration lane on Adams Avenue so that vehicles intending to enter the site can move out of the flow of traffic on Adams Avenue more quickly. It would also provide greater on-site space for visitors to drop sorted recyclable materials at designated areas; landscaped frontage along Adams Avenue; an area for composting; raised planter beds; outdoor instructional space; a 2,500-square-foot covered storage area for trucks, forklifts, and equipment; and 50-foot by 40-foot modular spaces for storage. A 54-foot truck turnaround area would be provided for vehicles transporting recyclable materials off campus.

Standard roll-off trucks would deliver materials from campus six times a week between the hours of 9:00 a.m. and 5:00 p.m. Semi-trucks and 55-foot flatbed trucks would pick up recyclable waste once a month. All trucks would access the Recycling Center from the interior of the campus. The expansion of the site would also involve increasing the number of parking spaces from approximately 8 to 45 dedicated spaces. The proposed expansion would be able to accommodate triple the amount of visitors to the Recycling Center. It is anticipated, upon buildout of the expansion, that the Recycling Center would collect triple the volume of waste currently collected by the Center (Carey, pers. comm. 2014). Construction would occur during Phase 1 (2015–2017).

Student Union/Bookstore/Culinary Arts/Student Success Center

This project is planned to be developed slightly north of the corner of Fairview Road and Merrimac Way and will occupy 127,170 ASF. Construction would occur during Phase 2 (2017–2019).

New Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office

New adaptive physical education and fitness facilities, men's and women's locker rooms, aquatic facilities suitable for athletic competitions, and a Division office are proposed east of the Adams Lot and north of the proposed Interdisciplinary Complex. The existing pools and locker rooms would be demolished and would be the location of parking on Fairview Avenue. These buildings may include remodeling existing facilities or constructing new buildings/structures. Construction would occur during Phase 1I (2017–2019).

Student Housing Project

The proposed 229,650 ASF housing complex would have 818 student resident beds under this Master Plan planning horizon would be supported by a private partner (Bohannon, pers. comm. 2015). Construction would occur at the corner of Adams Avenue and the campus entry. Approximately 600 parking spaces would be provided for residents as part of the proposed project. A mix of units would be available to student-residents and would include efficiency units, 1-bedroom/1-bathroom units, 2-bedroom/2-bathroom units, and 4-bedroom configurations (Brailsford & Dunlavey 2014). In addition, 17 resident advisor and one professional staff apartment units would be included. Construction would occur during Phase 2 (2017–2019).

New Chemistry Building

The District proposes to construct a new Chemistry Building which would total 30,741 ASF. The Chemistry Building would provide state-of-the-art science labs suitable for instruction in STEM careers. The Chemistry Building would be located in the center of campus, south of the Adams Lot. Construction would occur during Phase 3 (2019–2024).

Interdisciplinary Complex Phase 2 (Language Arts and Social Sciences Building)

A new Language Arts and Social Sciences Building is proposed in the center of campus, just south of Le Bard Stadium and north of the central quad. The new building would be 77,587 ASF and would house language arts and social science programs. Construction would occur during Phase II (2017-2019).

Dance

The District proposes to construct a Dance Building, which would total 20,000 ASF. The Dance Building would be located west of the proposed Student Union/Student Services/ Administration/Culinary Arts facility and shall immediate adjacency to the Robert B. Moore theater. Construction would occur during Phase 3 (2019–2024).

Adams Avenue Parking Structure

The District proposes to construct a four-level parking structure for 2,000 vehicles on the Adams Avenue parking lot. Vehicle entry into the Adams Avenue Parking Structure would be through the Adams Avenue/Pinecreek entrance to campus. Construction is currently unscheduled and unfunded.

New Multidisciplinary Building

A new Multidisciplinary Building is proposed south of the Adams Lot and west of the new Chemistry Building. The new building will consist of instructional spaces to support a variety of programs. This project has not yet been scheduled for construction.

3.5.1.1.2 Program Level

Table 3-7 summarizes program-level buildings and facilities proposed for new construction in the Vision 2020 Facilities Master Plan and included in this PEIR evaluation. Further detail is provided below according to the category of building or facility proposed.

Table 3-7
Vision 2020 Facilities Master Plan PEIR – New Construction of Buildings and Facilities

Building/Area	Category	Acres	Size (GSF[a])	Size (ASF[b])	Parking Spaces
Unscheduled Projects					
OCC Village/Mixed-use development concept	Auxiliary	5.41	104,871	75,507	150

Sources: Farrow, pers. comm. 2014; District 2015, Pagel pers. comm. 2015; Dougherty + Dougherty Architects 2014.
[a] GSF (gross square feet) is the total area of building measured to the outside of exterior walls, including outdoor covered areas at 50%.
[b] ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

OCC Village/Mixed-Use Development Concept

This mixed-use development is a concept that does not currently have a developer proposal or specific site plan associated with it. In order to analyze this component at a program level, the EIR assumed a 104,871 GSF project that would consist of 89,000 GSF of conference/education office space and up to 15,000 GSF of retail/fast-casual restaurant space. This was mainly to estimate the trips that would be generated from any development that would later be proposed in response to community concern about traffic in this area. The District envisions a private partner that has yet to be identified. This element of the proposed plan is assessed at the program-level because project-level detail about OCC Village is not currently known. When a specific site plan is proposed, this element of the plan would be subject to future CEQA review. As a result, this project has not yet been scheduled for construction.

3.5.1.2 Buildings and Facilities (Renovation)

Project Level

In addition to the new construction of buildings and facilities, the proposed project would involve the renovation of two existing buildings, totaling approximately 60,735 ASF.

Table 3-8
Vision 2020 Facilities Master Plan PEIR– Renovation of Buildings and Facilities

Building/Area	Category	Current Acres	Current Size (GSF[a])	Current Size (ASF[b])	Proposed Acreage	Proposed Size (GSF[a]	Proposed Size (ASF[b])	Parking Spaces (Current/ Proposed)
Phase 1 (2015–2017)								
Administration Renovation (Watson Hall)	General Administrative /Academic	0.33	58,603	35,329	0.33	58,603	35,329	—
Unscheduled Projects								
Skill Center	Academic	0.565	24,592	18,320	0.565	24,592	18,320	—

Source: Farrow, pers. comm. 2014; District 2015, Pagel pers. comm. 2015; Dougherty + Dougherty Architects 2014.

[a] GSF (gross square feet) is the total area of building measured to the outside of exterior walls, including outdoor covered areas at 50%.

[b] ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

Administration Building (Watson Hall Renovation)

The renovated Watson Hall building would house the campus student services and administration offices, which include the offices of the OCC president, vice president, foundation, public information, and Student Service programs including Enrollment Services, Counseling, Financial Aid, Extended Opportunity Programs and Services (EOPS), Career Education, Transfer Center, CalWorks, and Student Equity. Renovation would occur during Phase 1 (2015–2017).

Skill Center

Renovations would occur at the existing Skill Center in order to meet instructional needs in advanced aerospace manufacturing technologies in aviation maintenance and welding labs. Renovation is currently unscheduled.

3.5.1.3 Buildings and Facilities (Demolition)

Table 3-9 summarizes buildings and facilities proposed for demolition. The proposed project would involve the demolition of 200,900 ASF.

Table 3-9
Vision 2020 Facilities Master Plan PEIR – Demolition of Buildings and Facilities

Building/Area	Category	Acres	Size (GSF[a])	Size (ASF[b])
Phase 1 (2015–2017)				
Planetarium	Academic	0.055	2,380	1,309
Math Wing	Academic	0.393	17,118	11,589
Reprographics Center	Auxiliary	0.158	6,878	5,039
Phase 2 (2017–2019)				
Administration Building	General Administrative	0.310	13,487	9,939
District Transportation Office	General Administrative	0.200	8,698	7,970
Classrooms and Laboratories	Academic	0.245	10,673	8,129
Phase 3 (2019–2024)				
Journalism	Academic	0.243	10,593	6,698
Writer's Row	Academic	0.147	6,394	4,302
Student Success Center	Academic	0.306	13,350	8,459
Special Services	General Administrative	0.167	7,288	4,606
Social and Behavioral Sciences	Academic	0.426	18,570	12,659
150 Annex	Academic	0.082	3,570	3,319
Chemistry	Academic	0.771	33,580	20,989
Virgil D. Sessions Center for Literature and Languages	Academic	0.331	23,912	16,442
Bookstore	Auxiliary	0.205	8,947	8,211
Bursar's Office	General Administrative	0.075	3,286	2,518
Student Center	General Administrative	0.620	26,993	18,574
Campus Public Safety	Auxiliary	0.062	2,716	2,266
Gymnasium and Pool	Academic	0.662	28,880	26,483
Field House	Academic	0.206	9,010	3,907
Men's Locker Room	Academic	0.174	7,560	6,902
Women's Locker Room	Academic	0.282	12,280	8,869
Faculty House	General Administrative	0.046	2,023	1,721

Source: Farrow, pers. comm. 2014; District 2015, Pagel pers. comm. 2015; Dougherty + Dougherty Architects 2014.

[a] GSF (gross square feet) is the total area of building measured to the outside of exterior walls, including outdoor covered areas at 50%.

[b] ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

3.5.2 Site Improvements Elements

Site improvement elements will be analyzed at a project level of analysis. Site improvements include parking and vehicular entry, pedestrian circulation, and site infrastructure improvements.

3.5.2.1 Parking/Vehicular Entry Improvements

Reconfigured Campus Entries at Monitor Way, Pirate Way, and Arlington Avenue

These entries from Fairview Road would be enhanced with the addition of formal gateways and marked pedestrian drop-off points. The enhancement of these entries would be coordinated with the construction of the Student Union/Bookstore/Culinary Arts/Student Success Center, Administration Building, and Adaptive Physical Education, Gymnasium, Division Office, and Pool Facilities in order to enhance the visibility of these facilities.

3.5.2.2 Pedestrian Circulation/Bike Circulation

The proposed project builds on the existing pedestrian pathways, completing the pedestrian connectivity around the central quad. Pedestrian pathways are shown on Figure 3-5. Pedestrian nodes or plazas would include campus maps for way finding and seating for information interaction. Pedestrian pathways would be landscaped to signify that they are entryways into the campus. A third food service location would be added to the west side of campus, which would help create another student hub supporting that side of campus.

3.5.2.3 Infrastructure Improvements

Existing water, gas, and electrical utilities would be rerouted and expanded in order to accommodate the proposed demolition and construction of new facilities.

3.6 CONSTRUCTION ACTIVITIES

It is anticipated that planning, design and construction of the proposed project’s buildings and facilities would occur over three phases.

Various construction projects would occur in each of the three phases, including construction of academic buildings, housing, and parking facilities, as well as demolition of existing structures. Construction is further broken down into sub-phases for each phase depending on the type of development: demolition, grading, building construction, paving, and architectural coating. A variety of equipment is used during each sub-phase of construction, such as excavators, crawler tractors, loaders, forklifts, pavers, and air compressors. Construction would be performed by qualified contractors and contract documents. Table 3-10 provides a summary of standard construction practices that would be implemented throughout the proposed project buildout and would help reduce environmental effects.

Table 3-10
Summary of Standard Construction Procedures

Issue	Standard Construction Procedure
Water Quality and Hydrology	• Construction projects greater than 1 acre shall prepare a Stormwater Pollution Prevention Plan (SWPPP) which conforms to the California Storm Water Quality Association's SWPPP Template and shall include appropriate Best Management Practices (BMPs) related to the specific project. The following list includes examples of treatment control BMPs to employ during construction (these features shall appear as notes on final design plans): ○ Silt fences installed along limits of work and/or the project construction site ○ Stockpile containment (e.g., visqueen, fiber rolls, gravel bags) ○ Hillside stabilization structures (e.g., fiber matrix on slopes and construction access stabilization mechanisms, etc.) ○ Street sweeping ○ Tire washes for equipment. ○ Runoff control devices (e.g., drainage swales, gravel bag barriers/chevrons, velocity check dams) shall be utilized during construction phases conducted during the rainy season.
Air Quality	• Water trucks and/or sprinkler systems shall be used during construction (including clearing, rock crushing, grading, earth moving, excavation, or transportation of cut/fill materials) to prevent dust from leaving the site. At a minimum, the site is watered in the late morning and at the end of the day and/or during wind events of over 15 miles per hour. • Any haul vehicle leaving the project site shall be covered to prevent dust/particulate flyoff. • Haul vehicles equipped with bedliners shall be used as much as possible. • Low-emitting coatings must be used and would be applied via an electrostatic spray gun to reduce paint overspray.
Noise	• Any construction activities shall be conducted between the hours of: ○ Monday–Friday: 7:00 a.m.–7:00 p.m. ○ Saturday: 9:00 a.m.–6:00 p.m. • Construction activities would not occur on Sundays or during federal holidays. • Construction would not occur during nighttime hours.

3.7 DISCRETIONARY ACTIONS

Implementation of the proposed project would require discretionary approvals by state and local agencies, as shown in Table 3-11. Discretionary approvals include, but are not limited to, certification of the Final PEIR under the California Environmental Quality Act (CEQA).

Table 3-11
Vision 2020 Facilities Master Plan PEIR Project Approvals

Authorizing Jurisdiction or Agency	Action
Division of the State Architect	
Compliance with Title 24 of the California Code of Regulations • Structure Safety • Fire and Life Safety • Access Compliance • Energy	Plan review and approval

Table 3-11
Vision 2020 Facilities Master Plan PEIR Project Approvals

Authorizing Jurisdiction or Agency	Action
State Fire Marshall (delegated to the City of Costa Mesa Fire Department)	
Facility Fire and Life Safety Program	Approval
State Water Resources Control Board / Regional Water Quality Control Board	
NPDES Construction General Permit (SWRCB Order 2009-09-DWQ)	Submit Notice of Intent and comply with the provisions of the General Permits
NPDES Industrial Storm Water General Permit Order 97-03-DWQ (Recycling Center)	
Air Pollution Control District	
Authority to Construct and/or Permits to Operate	Approval

NPDES = National Pollutant Discharge Elimination System; MS4 = Municipal Separate Storm Sewer System

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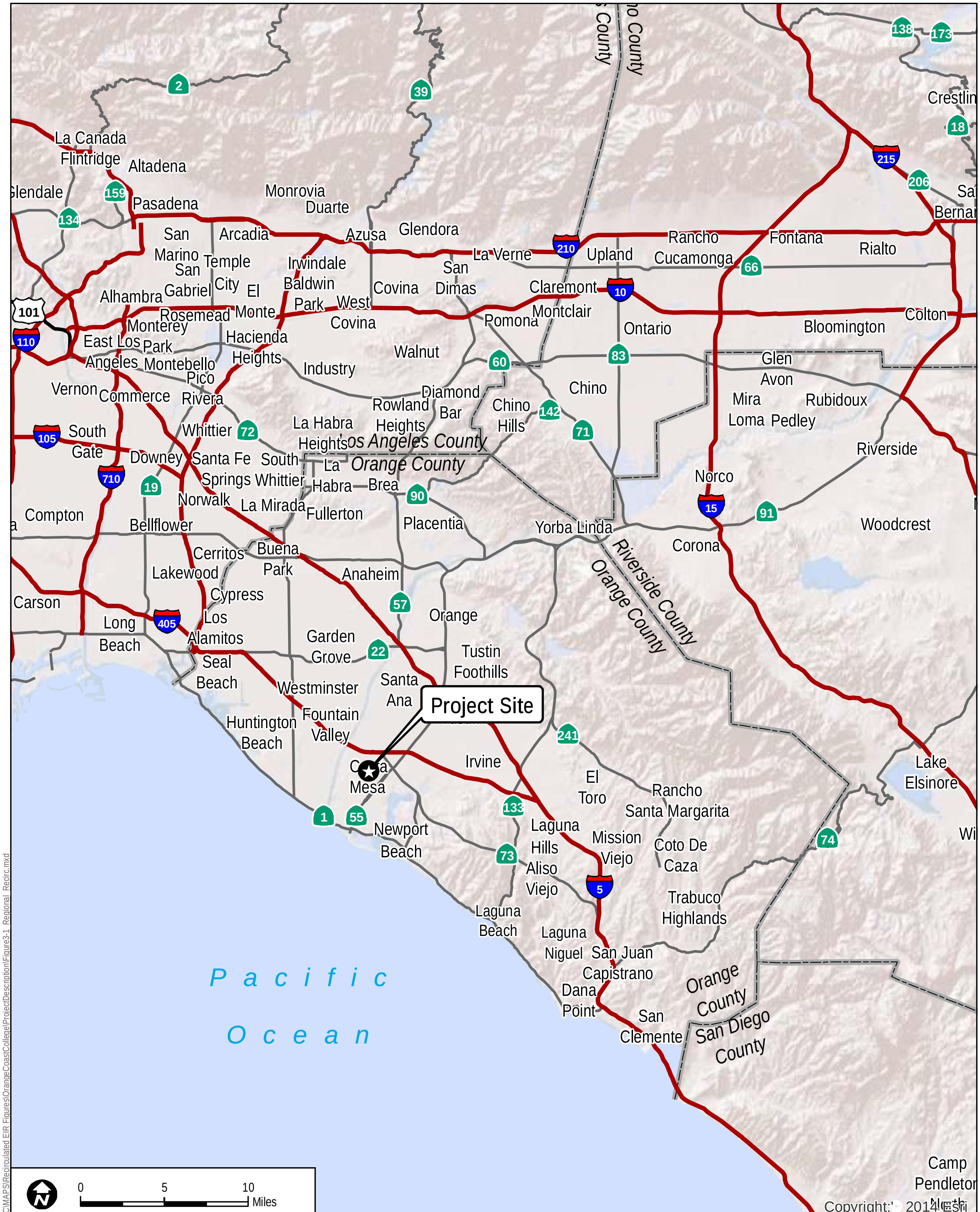

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SOURCE: ESRI 2013

FIGURE 3-1
Regional Location

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Orange Coast College Vision 2020 Facilities Master Plan Recirculated Program EIR

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SOURCE: Bing Imagery, 2015; Coast Community College Vision Plan, 2012; County of Orange.

FIGURE 3-2

Local Vicinity

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Orange Coast College Vision 2020 Facilities Master Plan Recirculated Program EIR

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Project Boundary

Campus Land Use

1a, Norman E. Watson Hall (Student Services/Administration)
1b, Student Health Center
2, Lewis Center for Applied Science
3, Harry and Grace Steele Early Childhood Lab School and Children's Center
4, Frank M Doyle Arts Pavilion
5a, Library
5b, Starbucks Coffee
6, Consumer, Allied Health and Bio Sci
7, Fitness Complex and Outdoor Field Labs
8, District Headquarters
9, Main Campus Entry (Students)
10, Recycling Center
11, Technology Center
12, Fran Albers Maintenance and Operations Center
13, Skill Center
14, Student Center
15, Administration
16a, Haley Business Learning Center
16b, Faculty House
17a, Classrooms and Laboratories
17b, Student Success Center
17c, Special Services
18, Gym and Locker Rooms
19, Robert B Moore Theatre
20, Information Technology
21, Horticulture
22, Chemistry
23, Virgil D Sessions Center for Literature and Languages
24, Science Hall and Math Lecture Halls
25a, Math Wing
25b, Reprographics
26, Planetarium
27, Journalism
28, Computing Center
29a, Social and Behavioral Sciences
29b, Bookstore
30a, Arts Center
30b, Fine Arts
31, Music Building
32, Giles T Brown Forum
33, Bursar's Office
34, District Transportation
35, Horticulture Garden Lab
36, Writer's Row
37, Campus Public Safety
38, 150 Annex

0 155 310 Feet

SOURCE: Bing Imagery, 2015; Coast Community College Vision Plan, 2012; Count of Orange, 2015.

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FIGURE 3-3

Existing Campus Land Uses

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SOURCE: Bing Imagery, 2015, Coast Community College Vision Plan 2012, County of Orange.

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FIGURE 3-4
Proposed Campus Land Use

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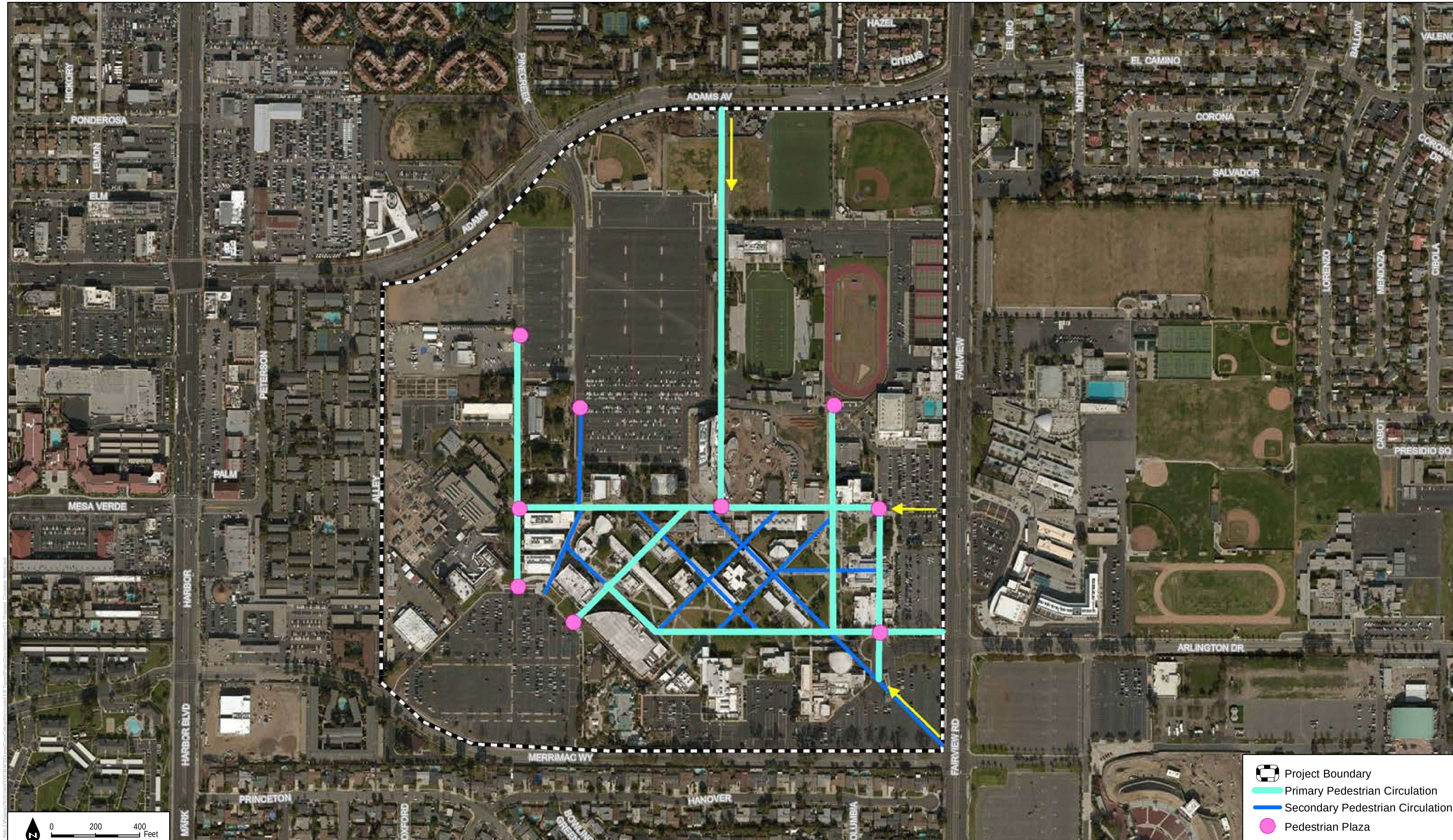

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SOURCE: Bing Imagery, 2015; Coast Community College Vision Plan, 2012; County of Orange.

FIGURE 3-5

Proposed Pedestrian Circulation Improvements

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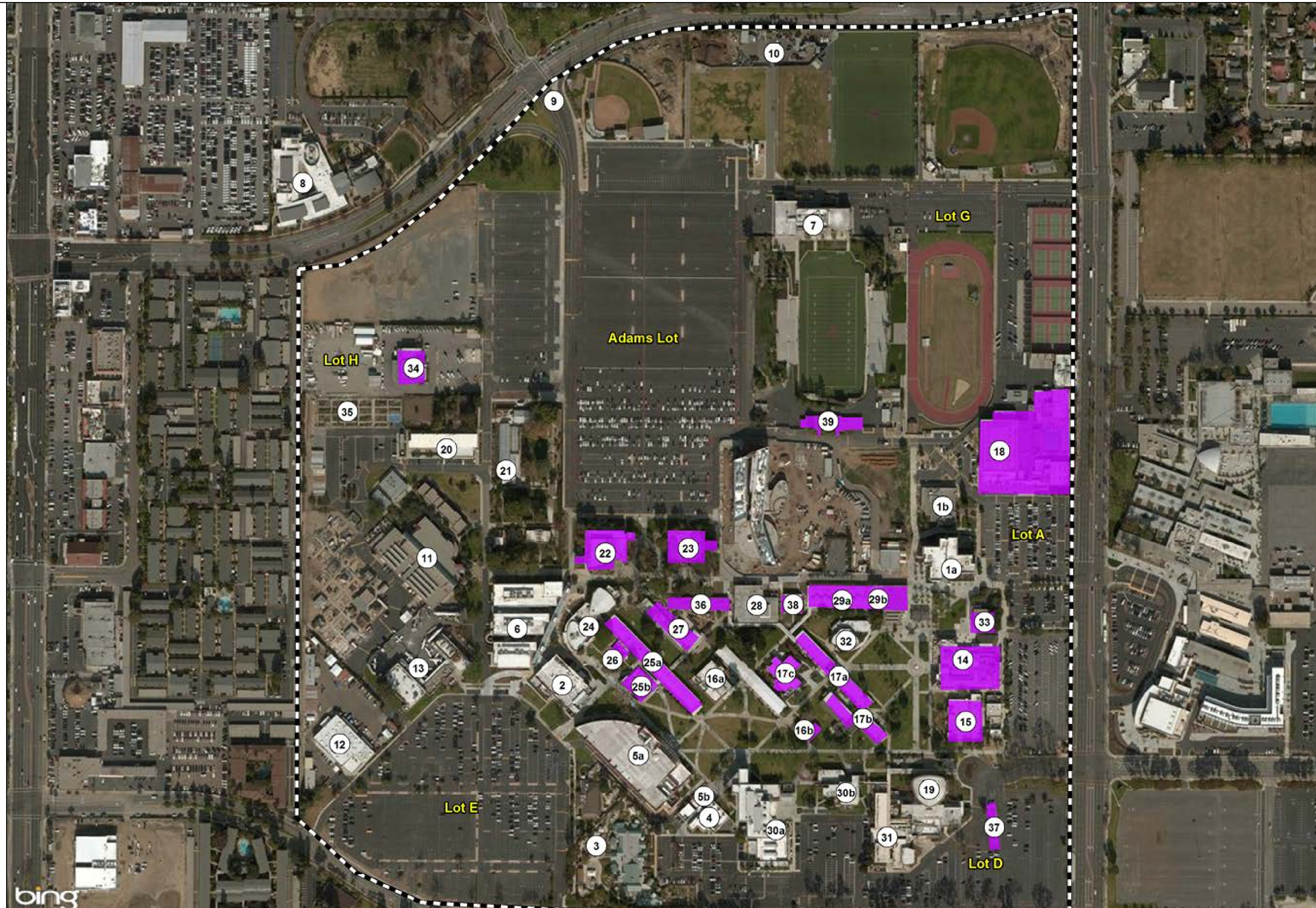
Project Boundary

Proposed Demolition Sites

Campus Land Use

1a,Norman E. Watson Hall (Student Services/Administration)
1b, Student Health Center
2, Lewis Center for Applied Science
3, Harry and Grace Steele Early Childhood Lab School and Children's Center
4, Frank M Doyle Arts Pavilion
5a, Library
5b, Starbucks Coffee
6, Consumer, Allied Health and Bio Sci
7, Fitness Complex and Outdoor Field Labs
8, District Headquarters
9, Main Campus Entry (Students)
10, Recycling Center
11, Technology Center
12, Fran Albers Maintenance and Operations Center
13, Skill Center
14, Student Center
15, Administration
16a, Haley Business Learning Center
16b, Faculty House
17a, Classrooms and Laboratories
17b, Student Success Center
17c, Special Services
18, Locker Rooms, Pool, Stadium, Gym
19, Robert B Moore Theatre
20, Information Technology
21, Horticulture
22, Chemistry
23, Virgil D Sessions Center for Literature and Languages
24, Science Hall and Math Lecture Halls
25a, Math Wing
25b, Reprographics
26, Planetarium
27, Journalism
28, Computing Center
29a, Social and Behavioral Sciences
29b, Bookstore
30a, Arts Center
30b, Fine Arts
31, Music Building
32, Giles T Brown Forum
33, Bursar's Office
34, District Transportation
35, Horticulture Garden Lab
36, Writer's Row
37, Campus Public Safety
38, 150 Annex

0 155 310 Feet



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SOURCE: Bing Imagery, 2015; Coast Community College Vision Plan, 2012; Count of Orange, 2015.

FIGURE 3-6

Proposed Demolition

Orange Coast College Vision 2020 Facilities Master Plan Recirculated Program EIR

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CHAPTER 4
ENVIRONMENTAL ANALYSIS

The following environmental analyses provide information relative to 13 environmental topics as they pertain to the proposed Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project). Each section of this chapter describes existing environmental and regulatory conditions, presents the criteria used to determine whether an impact would be significant, analyzes significant impacts, identifies mitigation measures for each significant impact, discusses the significance of impacts after mitigation has been applied, and discusses cumulative impacts.

This chapter includes a separate section for each of the following issue areas:

- Section 4.1, Aesthetics
- Section 4.2, Air Quality
- Section 4.3, Biological Resources
- Section 4.4, Cultural Resources
- Section 4.5, Geology and Soils
- Section 4.6, Greenhouse Gas Emissions
- Section 4.7, Hazards and Hazardous Materials
- Section 4.8, Hydrology and Water Quality
- Section 4.9, Noise
- Section 4.10, Population and Housing
- Section 4.11, Public Services
- Section 4.12, Traffic and Circulation
- Section 4.13, Utilities and Service Systems.

Issues for which effects were found not to be significant are agricultural and forestry resources, land use and planning, mineral resources, and recreation. These environmental topics are discussed in Section 5.4, Effects Found Not to Be Significant, of Chapter 5, Other CEQA Considerations, of this Environmental Impact Report (EIR), and are not discussed in further detail pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15128 (14 CCR 15000 et seq.). Chapter 6 analyzes alternatives to the proposed project, and Chapter 7 includes the list of preparers.

Analysis Format

The Recirculated Draft Program EIR assesses how the proposed project would impact the issue areas listed above. Each environmental issue addressed in this Recirculated Draft Program EIR is presented in terms of the following subsections:

- **Existing Conditions.** Describes the existing setting on or surrounding the project site that may be subject to change as a result of the implementation of the project. This setting describes the conditions that existed when the Notice of Preparation (NOP) was sent to responsible agencies and the State Clearinghouse.
- **Thresholds of Significance.** Provides criteria for determining the significance of project impacts for each environmental issue.
- **Impacts Analysis.** Provides a discussion of the characteristics of the proposed project that may have an effect on the environment, analyzes the nature and extent to which the proposed project is expected to change the existing environment, and indicates whether the project impacts meet or exceed the levels of significance thresholds.
- **Mitigation Measures.** Identifies mitigation measures to reduce significant adverse impacts to the extent feasible.
- **Level of Significance after Mitigation.** Provides a discussion of significant adverse environmental impacts that cannot be feasibly mitigated or avoided, significant adverse environmental impacts that can be feasibly mitigated or avoided, and adverse environmental impacts that are not significant.
- **Cumulative Impacts.** Provides a discussion of the past, present, and reasonably foreseeable projects relevant to each resource analysis and documents cumulatively considerable environmental impacts that cannot be feasibly mitigated or avoided, cumulatively considerable environmental impacts that can be feasibly mitigated or avoided, and environmental impacts that are not cumulatively considerable. Mitigation measures to reduce cumulative impacts are included where necessary.

4.1 AESTHETICS

This section describes the existing visual setting of the project site and vicinity, identifies associated regulatory requirements, evaluates potential aesthetic and visual resource impacts, and identifies mitigation measures related to implementation of the proposed project. The description of the existing visual setting is based on site visits and a review of site photos and aerial photographs of the Orange Coast College (OCC) campus and surrounding area, as well as a review of the characterization of campus architecture and visual landscape presented in the Historical Resources Technical Report for the Vision 2020 Facilities Master Plan Program EIR (Ostashay & Associates Consulting 2015) and the Orange Coast College Historic Structures Report (HSR) prepared by Page & Turnbull in May 2015.

This analysis considers the major development components and characteristics identified by the Coast Community Colleges District (the District) for the OCC campus in the Vision 2020 Facilities master plan (proposed project). Based on the availability of component details, including bulk and scale and architectural design information, development components are either analyzed at a project-level or at a program-level. With the exception of the OCC Village mixed-use development component, all identified development components of the proposed project are analyzed at a project-level. The OCC Village mixed-use development component is assessed at the program-level because project-level detail about OCC Village is not currently known. When a specific site plan is proposed, which would include elevations and a proposed building design, this element of the proposed project would be subject to future CEQA review.

4.1.1 Existing Conditions

4.1.1.1 Overview

The general layout of the Orange Coast College campus is depicted in Figure 3-3, Existing Campus Land Uses. While athletic fields and facilities are located in the northern and northeastern sections of the campus (the Recycling Center is also located in the northern extent of campus and is adjacent to Adams Avenue), existing buildings are generally clustered in the south and are surrounded by large surface parking lots to the south, east, and north. With the exception of the Harry and Grace Steele Early Childhood Lab School and Children’s Center and campus locker room building (portions of these facilities are located adjacent to or abut public road rights-of-way – see Figure 3-3), building setbacks from surrounding roadways are relatively wide. For example, due to the presence of surface parking lots, existing building setbacks along Merrimac Way are between 150 and 200 feet, and on Fairview Road, building setbacks are generally between 250 and 300 feet. From Adams Avenue, the Recycling Center is setback 50 feet, and the fitness complex and outdoor field labs structure is setback approximately 575 feet; however, the core-building cluster is located approximately 800 feet south of the avenue.

The existing visual landscape of the OCC campus is a reflection of a history of phased planning, design, and construction. Robert E. Alexander developed the initial master plan (1948) for the campus. He was assisted by local Corona del Mar architect Richard Pleger who worked as associate architect on the project. Then in 1952, the partnership with renowned architect Richard Neutra began and the two planned and designed the central core of the campus. Buildings within the central core reflect the unity and cohesiveness Alexander and Neutra attempted to achieve in the initial master plan of the campus, and the relationship between buildings is evident in their scale, size, design, and composition (Ostashay & Associates Consulting 201t). The Robert B. Moore Theatre, Science Building, Planetarium, Business Education Building, Counseling/ Administration office, and classrooms and laboratories, comprise several of the campus core buildings planned by Alexander (1948 7-year Master Plan) and designed by Alexander/Neutra.The second phase of campus development occurred when Richard Pleger teamed with local master architect William E. Blurock as well as with architect Rumont W. Hougan (and later with Philmer Ellerbroek) to form Pleger, Blurock, Hougan and Ellerbroeck (Ostashay & Associates 2014; Page & Turnbull 2015). Under their guard, the architects completed the Home Economics complex in 1958, designed the new Modern style gymnasium and associated men's and women's locker rooms in 1961-1962, the Modern Forum building in 1960, and the complementary Science Hall in 1964. Many of the buildings display a low-rise horizontal massing and a design that emphasizes function and simplification of form over applied decoration. As shown on Figure 3-3, buildings in the central core display visual cohesiveness and are connected to one another by an interesting crosshatch of concrete walkways separated (and complemented) by a series of open lawn areas dotted with occasional shrubs which, in addition to supporting connectivity, allowed for the successful merger of indoor and outdoor learning environments (Ostashay & Associates Consulting 2015). Reflecting a relaxed informality and displaying a restrained compositional style, the detached, one-story linear structures of brick, stucco, wood, and glass define the campus core. Lastly, unlike the grid pattern of development displayed in residential areas surrounding OCC, several buildings in the campus core were designed and constructed with a preference for flexibility. As shown on Figure 3-3, several buildings were set at a distinct 45-degree angle in order to take advantage of prevailing southwest breezes and also initially included provisions for rearranging interior spaces (Ostashay & Associates Consulting 2015).

As the campus continued to expand and develop after the dissolution of the Alexander and Neutra partnership in the late 1950s, low-rise buildings gave way to larger buildings that displayed contemporary and modernist features. For example, the Chemistry, Special Services, and Student Health Center buildings (all of which are located near the campus core) display a cohesive architectural style that emphasizes heavy use of split-faced concrete block in exteriors.

On the other hand, the Virgil D. Sessions Center for Literature and Languages, the Lewis Center for Applied Sciences, and the Library each feature large, multi-story, unarticulated facades but also include flat rooflines and deeply recessed entryways. In addition, the Information Technology and the Arts Center buildings display a successful composition of building materials, flat rooflines broken by the massing of buildings, windows concentrated near entrances, and easily accessible entryways. Newer construction on campus deviates from the scale, size, design, and building materials displayed in the modernist style of campus core buildings. For example, the recently constructed multi-story Norman E. Watson Hall features a large, vertical glass façade and flat rooflines, and the Early Childhood Lab School and Children's Center features green-colored pitched metal siding roofing.

As shown on Figure 3-3, the OCC campus is located in an urbanized setting within the City of Costa Mesa, California. The campus is surrounded by two-story single-family and apartment-style residential development to the north; low-density single-family residential development to the south; single-family residential development, educational uses (Costa Mesa High School), and Orange County (OC) Fair & Event Center development to the east; and a large two-story apartment complex and adjacent commercial development to the west. Adams Avenue, Fairview Road, and Merrimac Way define the northern, eastern, and southern boundaries of the campus, and each road features four or more travel lanes, raised medians, streetlights, and adjacent sidewalks/walkways. Pine and pear trees populate raised medians on Adams Avenue and Merrimac Way, and several sycamore trees are featured in the short, raised median on Fairview Road near the campus' locker room and pool complex. With the exception of westbound Adams Avenue, street parking is not permitted on surrounding roads. The main vehicular entryway into the campus is located at the intersection of Adams Avenue and Pinecreek Drive where a small lawn area and a tall, cement and light-emitting diode (LED) informational sculpture/ monument welcome students and staff.

Because the OCC campus is located in an urbanized setting, night lighting is a relatively common feature in the landscape. Outdoor lighting including streetlights, building lighting, illuminated signs, security lighting, sidewalk lighting, parking lot lighting, lights from motorists, and OCC and Costa Mesa High School athletic field lighting are regular sources of nighttime light in the project area.

4.1.2 Relevant Plans, Policies, and Ordinances

The following section identifies federal, state and local plans, policies, and ordinances relevant to aesthetics/visual resources and the proposed project.

Federal

There are no applicable federal regulations regarding the protection of visual resources that would be applicable to the proposed project or the project area.

State

California State Scenic Highway Program

The California Department of Transportation (Caltrans) administers the state Scenic Highway Program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways (California Streets and Highways Code, Section 260 et seq.). The state Scenic Highway Program includes a list of officially designated highways and highways that are eligible for designation. If a highway is listed as eligible for official designation, it is part of the Scenic Highway Program, and care must be taken to preserve its eligibility status. The program entails the regulation of land use and density of development; attention to the design of sites and structures; attention to and control of signage, landscaping, and grading; and other restrictions applicable to development within the scenic highway viewshed.

In Orange County, Pacific Coast Highway (Highway 1) is listed as an eligible scenic highway but it has not been officially designated by the state (Caltrans 2015). At its closest point, Pacific Coast Highway is located approximately 3.5 miles southwest of Parking Lot E (Merrimac Lot) on the OCC campus.

Local

City of Costa Mesa 2000 General Plan

While the General Plan Conservation Element does not identify any officially designated scenic vistas or scenic roads and highways, resources such as the city's coastal bluffs, Talbert Nature Preserve, and Fairview Regional Park are referred to as "visual strengths" and important viewsheds in the Community Design Element. Further, the Community Design Element identifies a Fairgrounds/Orange Coast College District that functions as the primary cultural, educational, and civic center district of the city (City of Costa Mesa 2000). Both the OC Fair & Event Center and OCC are also designated as important landmarks in the city, and the intersection of Harbor Boulevard and Adams Avenue is identified as an important internal node in Costa Mesa. A node is defined as "a point where people gather or where paths converge and high levels of activity are regularly experienced" (City of Costa Mesa 2000).

The General Plan also contains policies regarding general lighting and lighting fixtures. Policies applicable to the proposed project are listed below:

- **Policy CD-8A.8:** All exterior lighting on commercial properties should be consistent with the architectural style of the commercial building. On each commercial site, all lighting fixtures should be from the same family of fixtures with respect to design, materials, color, fixture, and color of light. Lighting sources should be shielded, diffused or indirect to avoid spillover on adjacent properties, nighttime sky light pollution, and glare to pedestrians and motorists. To minimize the total number of freestanding light standards, wall mounted lights should be utilized to the greatest extent possible.

- **Policy CD-910A.1:** The design of lighting fixtures and their structural support should be of a scale and architectural design compatible with on-site buildings. Large areas should be illuminated to minimize the visual impact and amount of spillover light onto surrounding projects.

City of Costa Mesa Municipal Code

Development standards applicable to land use districts established within the City of Costa Mesa are discussed in Title 13, Chapter V (Development Standards). OCC and the OC Fair & Event Center are zoned Institutional and Recreational (I&R) by the City of Costa Mesa (City of Costa Mesa 2004). According to the city's municipal code (Section 13-66), the maximum building height in the I&R zone is four stories for development located south of the Interstate 405 (I-405) Freeway; however, special purpose housing including student housing may be granted additional building height. Also, the applicable front, side, and rear yard setback for development in the I&R zone abutting a secondary, primary, or major street is 20 feet.

Pursuant to Chapter V, Landscape Standards, of the Municipal Code, landscape and irrigation plans shall be required for all development projects requiring discretionary land uses approval for all city-initiated projects (see Section 13-103, General Provisions and Submittal Requirements). Landscaping requirements and landscaping materials are discussed in Sections 13-105 and 13-106.

4.1.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to aesthetics are based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to aesthetics would occur if the project would:

1. ***Have a substantial adverse effect on a scenic vista.***

2. ***Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.***
3. ***Substantially degrade the existing visual character or quality of the site and its surroundings.***
4. ***Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.***

Thresholds of Significance 1 and 2 were eliminated from further consideration in the Initial Study. The City of Costa Mesa General Plan does not identify any scenic vistas in the city and the OCC campus and adjacent state fair parking lot are not visible from locations identified by the city as “visual strengths;” namely, the city’s coastal bluffs and Talbert Nature Preserve. Implementation of project- and program-elements could include the construction and operation of buildings of greater height and mass than currently located on the campus; however, given the presence of existing intervening features between Fairview Park and OCC, future campus elements would be obscured and partially screened from view. As such, project- and program-level elements of the proposed project would not have a substantial adverse effect on a scenic vista, and impacts would be less than significant. At its closest point, Pacific Coast Highway (an eligible State Scenic Highway) is located approximately 3.5 miles southwest of the OCC campus, and due to intervening terrain, development and vegetation, views of the OCC campus are not available to motorists along Pacific Coast Highway. As such, no impacts to scenic resources within a State Scenic Highway would occur.

4.1.4 Impacts Analysis

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

For purposes of this analysis, changes to the visual character of the project area as result of implementation of project- and program-level elements are assessed from the public roadways surrounding the perimeter of the OCC campus. These viewing locations represent public views of the campus afforded to potentially sensitive viewers and more specifically, to passing motorists and pedestrians. Residential land uses to the north, south, and west of the OCC campus would also be afforded views of buildings and improvements proposed by the Vision 2020 Facilities Master Plan; however, the views of residents from private property are not protected under CEQA. The impact analysis does, however, consider the existing visual quality and character of the project sites and the surrounding area as well as the scale and mass of existing development on and around the OCC campus when making a determination of significance as it relates to proposed new construction and renovations. Because OCC students and staff are on campus voluntarily for higher education and employment purposes, the visual expectations of these viewers are tempered by the existing assemblage of campus buildings and facilities. In addition, because students and staff enter the campus and the associated visual environment voluntarily and would directly benefit from the proposed capital improvements, they are not considered sensitive viewers.

Project-Level Elements

New Construction of Buildings and Facilities

Table 4.1-1 details the proposed new buildings and facilities analyzed in the Vision 2020 Facilities Master Plan PEIR as project-level elements and provides the approximate acreage and size (in gross square feet (GSF) and assignable square feet (ASF) of the proposed uses. Proposed Campus Land Uses are depicted on Figure 3-4.

Table 4.1-1
New Construction of Buildings and Facilities (Project-Level Elements)

Building/Area	Category	Acres	Size (GSF[a])	Size (ASF[b])	Parking Spaces
Planetarium	Academic	1.28	13,359	8,234	—
Student Union/Bookstore/Culinary Arts/Student Success Center	Academic/General Administrative	3.5	189,806	127,170	—
Interdisciplinary Complex Phase 2 (Language Arts and Social Sciences Building)	Academic	0.825	107,760	77,587	—
Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office	Academic	3.1	98,477	49,581	—
Dance	Academic	0.76	32,000	20,000	—
Chemistry Building (New)	Academic	0.385	43,916	30,741	—
Multidisciplinary Building	Academic	0.287	25,000	18,000	—
Parking Structure	Auxiliary	4.065	708,320	602,072	2,000
Recycling Center Expansion	Auxiliary	4.28	7,771	7,086	45
Student Housing (818 beds)	Residential	3.486	303,688	299,650	600

[a] GSF (gross square feet) is the total area of building measured to the outside of exterior walls and includes mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

[b] ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

As proposed, a new 13,359 GSF Planetarium would be constructed in the campus core, approximately 60 feet southeast of the existing Planetarium and at the current site of the Reprographics building. The presence of multi-story buildings and tall trees on campus would screen the new building from view of motorists and pedestrians on Merrimac Way. In addition to trees installed within Lot D and those dotting the periphery of the campus core, buildings along the southern boundary of the campus core, including the three-story Arts Center, the multi-story Library, and the multi-story Lewis Center for Applied Science building, severely limit the length of northerly views from Merrimac Way. Under existing conditions, the presence of intervening campus landscaping and development screens the Planetarium from view along Merrimac Way. The new Planetarium would be constructed at a similar location and as such, similar viewing conditions to the new building from Merrimac Way are anticipated. Therefore, aesthetics impacts resulting from construction and operation of the new Planetarium would be less than significant.

A new Student Union/Bookstore/Culinary Arts/Student Success Center is proposed in the southeastern corner of campus, north of Merrimac Way and adjacent to Fairview Road. The footprint of the new 189,806 GSF building would encompass existing uses including Lot B, the Bursar’s office, the Student Center, and the Administration Building. Existing on-site buildings would be demolished to accommodate the new building. While the assumed one- to two-story new building would be located closer to Fairview Road than existing campus facilities in the area, it is assumed that the structure would be constructed at a similar scale and would display a similar architectural theme as modern campus structures located west of Lot A. Furthermore, the new building would be student-oriented and would serve a similar purpose as the existing student center it would replace. Use of a similar architectural theme as modern campus buildings in the vicinity would help to visually integrate the new Student Union/Bookstore/Culinary Arts/Student Success Center to the modernizing campus and contribute towards a cohesive campus visual character. Therefore, because the new Student Union/Bookstore/Culinary Arts/Student Success Center would display a similar architectural theme as more modern campus facilities in the area and would be constructed at a similar scale as existing campus development near Lot A and Lot B , the resulting impacts to existing visual character would be less than significant.

As proposed, the Interdisciplinary Complex Phase 2 (Language Arts and Social Sciences) building would be located on an underutilized lot located west of Norman E. Watson Hall and south of LeBard Stadium (see Figure 3-4). While the specific height and architectural style of the Interdisciplinary Complex Phase 2 facility are not yet known, it is assumed that the building(s) would be constructed to similar heights and would display similar architectural styles as nearby modern campus facilities such as Norman E. Watson Hall. Also, it is possible that the height and design of the new building would mirror that of the Interdisciplinary Complex Phase 1 building[1] that, as of August 2015, has finished construction and is located immediately to the west of the Interdisciplinary Complex Phase 2 building (see Figure 3-4). As such, from Fairview Road and the eastern perimeter of campus, the proposed buildings would be viewed in conjunction with adjacent contemporary structures of similar scale and design and could appear as an extension of existing campus facilities. As such, views of the new building(s) would be in character with the existing visual experience of the OCC campus as viewed from Fairview Road. Therefore, because the Interdisciplinary Complex would display a similar height and architectural style as existing multi-story campus facilities in the vicinity and would be in character with the existing

[1] This component was part of the 2007 Master Plan and was analyzed in the 2007 PEIR for the Orange Coast College Master Plan.

visual experience of the OCC campus, impacts to the existing visual character or quality of the OCC campus would be less than significant.

The proposed project also includes construction of a new Adaptive Physical Education, Gym, Pool Facilities, and Division Office east of the Adams Lot and west of LeBard Stadium (see Figure 3-4). Due to the presence of existing campus physical education facilities, including tennis courts and LeBard Stadium, views to the new facilities would not be available to motorists and pedestrians on Fairview Road. However, relatively long views to the complex may be available to passing motorists and pedestrians on Adams Avenue. Despite the potential availability of long views to the new Adaptive Physical Education, Gym, Pool Facilities, and Division Office, physical education facilities are established uses in this specific area of the campus and as such, contribute to the existing visual character of the campus as experienced from Adams Avenue. As shown on Figure 3-4, athletic fields and facilities are prevalent in the northern and northeastern portion of the OCC campus, and these facilities contribute to the existing visual character of the area as viewed from Adams Avenue. Furthermore, the new Adaptive Physical Education, Gym, Pool Facilities, and Division Office are not anticipated to entail substantially larger or taller facilities than the existing campus locker rooms, gym, and pool facilities. Therefore, the bulk and scale of the new facilities would be similar that to that of the existing facilities. While the architectural design of the new facilities may not include the use of rectangular concrete facades and brick wall partitions that characterize existing facilities that they would replace, an eclectic mix of styles and buildings that reference the history and evolution of design themes since the establishment of OCC contribute to the established campus visual character. In addition and similar to more recent development that has occurred on the OCC campus, the new Adaptive Physical Education, Gym, Pool Facilities, and Division Office are likely to display a modern architectural theme, style, and design. Given the eclectic mix of styles and designs displayed by campus buildings and the presence of existing physical education facilities in the surrounding area, construction of a modern Adaptive Physical Education, Gym, and Pool Facilities, and Division Office would not substantially degrade the visual character or quality of the OCC campus. As such, impacts would be less than significant.

The District proposes to construct a new 32,000 GSF Dance Building within the campus core, and the footprint of the new building would encompass the Faculty House and the Student Success Center. The new Dance Building would also be located to the west of the proposed Student Union/Bookstore/Culinary Arts/Student Success Center facility. Due to the presence of existing campus development including the Robert B. Moore Theatre and adjacent Drama Lab Studio in the southeastern corner of campus and the Administration Building and Student Center east of Lot B, motorists and pedestrians on Merrimac Way and Fairview Road are not currently afforded views to the Faculty House and Student Success Center (i.e., the proposed Dance Building site). While specific details of the new Dance Building are not known at this time, it is anticipated the new building would display a similar scale as the Faculty House and Student

Success Center, and similar to recent development on campus, the building would incorporate a more modern, contemporary design. As the new center would display scale similar to that of existing on-site structures and would be screened from the view of receptors on Merrimac Way and Fairview Road by existing development and future land uses, impacts to the existing visual character and quality of the OCC campus resulting from construction and operation of the new Dance Building would be less than significant.

A new Multidisciplinary Building and a new Chemistry Building are proposed immediately south of the Adams Avenue lot and east of the Horticulture Building. The Multidisciplinary Building would be constructed at the current site of the Chemistry Building (the new building would have a similar development footprint as the Chemistry Building) and the new Chemistry Building would be constructed at the site of the current Virgil D. Sessions Center for Literature and Languages (see Figures 3-3 and 3-4). While the scales of the new buildings are not yet known, it is anticipated that the new buildings would be constructed at similar heights as the existing buildings that they would replace and would display an architectural design that would ensure cohesion with existing and future campus development. Also, under existing conditions, the proposed building sites are not visible to passing motorists and pedestrians on Merrimac Way, Fairview Road, and Adams Avenue due to the presence of intervening campus development and landscaping. Since new buildings would be constructed at a scale similar to that displayed by the existing Chemistry Building and Literature and Language building, existing and proposed campus facilities would also screen the new buildings from the view of passing motorists and pedestrians in the area. As shown on Figure 3-4, the new buildings would be located near the interior of campus, and off-site views to the buildings would be screened by proposed buildings (i.e., the multi-story Interdisciplinary Complex Phase 2 building), the existing Norman E. Watson Hall, the Lewis Center for Applied Science, the Library, and the Arts Center. Lastly, from Adams Avenue and residential developments to the north, views of the new buildings would be screened by mature trees located north of Adams Avenue, occasionally landscaped medians, landscaping (i.e., palm trees and a vegetative screen) installed along the Recycling Center frontage on Adams Avenue, and the proposed facilities of the expanded Recycling Center. Since the new Multidisciplinary Building and Chemistry Building would be in character with the OCC campus and would be screened from off-site viewing locations, the buildings would not substantially affect the existing visual character of the site and surroundings. As such, impacts would be less than significant. A new four-level parking structure is proposed and would be constructed at the southern end of the Adams Lot (see Figure 3-4). As proposed, the four-level parking structure would encompass approximately 4 acres of the Adams Lot and would accommodate up to 2,000 vehicles. While specific design details associated with the Adams Lot parking structure have not yet been developed, tBP/Architecture prepared conceptual plans in a feasibility study prepared for the Coast Community College District, OC Fair & Event Center, and the City of Costa Mesa in 2008 (tBP/Architecture 2008). For purposes of this analysis, the 2008 feasibility and associated conceptual plans were referenced and considered as a potential design for the Adams Lot parking structure.

Based on a review of the conceptual plans, the structure could display a boxy, rectangular form supporting flat facades with repetitious cut-outs for penetration of sunlight and air (or the incorporation of windows) and large planters on successive recessed upper levels at structure corners. Campus parking in the immediate surrounding area is currently served by large surface parking lot (i.e., Adams Lot), and campus development in the area consists of physical education facilities (LeBard Stadium), the Interdisciplinary Complex Phase I building, the Horticulture Building, and the Chemistry and Literature and Language Buildings. The closest off-site receptors that would be afforded views to the parking structure are motorists and pedestrians on Adams Avenue and residential land uses located north of Adams Avenue. These receptors would be located more than 1,000 feet away, and due to distance, the apparent scale of the parking structure would be reduced. Also, in addition to existing campus physical education facilities and landscaping along the Adams Avenue corridor, the proposed parking structure would be partially obscured from view by the proposed Recycling Center expansion, the Adaptive Physical Education, Gym, Pool Facilities, and Division Office, and the student housing project (see Figure 3-4). Furthermore, the potential boxy, rectangular form and flat facades of the parking structure would display a similar form and line as existing and proposed campus development in the surrounding area. Therefore, while specific design plans have yet to be developed, the four-story, on-campus parking structure would be located more than 1,000 feet from the nearest receptors and is proposed where existing and proposed campus development occurs and displays similar form and line. In addition, the parking structure site is partially screened from view by existing campus development and landscaping, and proposed campus development would enhance visual screening opportunities along Adam Avenue. Therefore, impacts to the existing character and quality of the OCC campus due to implementation of the Adams Avenue parking structure would be less than significant.

The District intends to modernize and expand the existing recycling facility to accommodate recycling demand in the City of Costa Mesa. As proposed, the expanded footprint of the Recycling Center would encompass an adjacent rectangular turf practice area and an underutilized area located beyond the softball field fence (see Figure 3-4). Views of the existing Recycling Center are briefly available to passing motorists and pedestrians on Adams Avenue and to several units in the Villa Siena and Pine Creek Village apartment complexes located north of Adams Avenue.

While the existing point-of-service location is relatively open and is screened only by the presence of palm trees planted adjacent to the sidewalk, a portion of the facility is obscured from view by a 6-foot-tall chain link fence wrapped with darkly colored screening fabric, and by dense, irrigated shrub, vine, and palm plantings installed along Adams Avenue. According to conceptual plans, proposed construction activities at the facility would result in the addition of an expanded parking lot with approximately 45 parking spaces and a deceleration lane from Adams Avenue, additional point-of-service facilities, and an administration office. In addition, raised planter beds, a composting area, outdoor teaching spaces, and 2,500 square feet of covered storage space would be constructed. However, these facilities would be set back from Adams Avenue and would be partially to fully screened from motorists by the point-of-service facilities, the administration office, and proposed landscaping along Adams Avenue. Project landscaping would also partially screen views of the proposed parking lot, the administration office, and the point-of-sale locations; however, these elements would remain visible to passing motorists and pedestrians. While the expanded parking area would remain in the visual field of passing motorists longer than the existing small lot, a larger parking area would allow for a greater setback for the proposed point-of-service facilities and the administration office from Adams Avenue. In addition, the single-story administration office would feature a lightly colored finish and flat façade with limited articulations and would somewhat resemble existing Recycling Center facilities including the rectangular, tan-color temporary structure located adjacent to the point-of-service facility. Lastly, the scale of both the Administration Building and point-of-service facilities (neither would exceed 20 feet in height) would generally be consistent with the scale of development in the immediate area including the existing Recycling Center and two-story residential structures located north of Adams Avenue. Therefore, the proposed expanded Recycling Center facility would not substantially degrade the existing visual character or quality of the site, and its surroundings and aesthetic impacts would be less than significant.

Lastly, a 303,688 GSF Student Housing Project is proposed and would be located in the northwestern corner of campus (see Figure 3-4 for location of the proposed development). As shown on Figure 3-4, the planned footprint of the Student Housing Project would encompass the existing boat storage yard, District transportation buildings, and the western portion of the Adams Lot. Given the proposed gross square-footage of the Student Housing Project and the addition of 818 student resident beds to the OCC campus, it is assumed that the project would entail the construction of one or more multi-story apartment-style buildings at the site. Further, while the specific mass and scale of the building(s) is not yet known, for purposes of this analysis it is assumed that the building(s) and associated parking would encompass the entirety of the site as identified on Figure 3-4 and could support up to four stories as four stories is the maximum height for the underlying I&R zone established by the city's Municipal Code.

Under existing conditions, the proposed Student Housing Project site is partially screened from view by the dark fabric-wrapped chain-link fence installed along the northwestern perimeter of campus and adjacent to Adams Avenue. The introduction of a new four-story structure on the site would be apparent to passing motorists, pedestrians, and surrounding residential land uses, and the bulk and scale of large, Student Housing Project would contrast with that of existing buildings in the immediate area, including the relatively low-profile Coast Community College District headquarters building and the two-story Harbor at Mesa Verde multi-family residential development, both of which are located north of Adams Avenue. An existing four-story multi-family residential development, Camden Martinique, is located north of the proposed site and west of Pinecreek Drive; however, the development is partially screened from passing motorists on Adams Avenue by project landscaping and a small grove of eucalyptus trees on an undeveloped, District headquarters-adjacent lot. While multi-story and multi-family residential buildings are established uses along Adams Avenue and the proposed site currently supports a vacant dirt lot, a parking lot, and storage facilities, the anticipated bulk and scale of a large, multi-story Student Housing Project would alter the existing spatial characteristics of the site and would obstruct existing views available along Adams Avenue. In addition, because specific details regarding the future Student Housing Project are not known at this time, it is not clear as to whether architectural and site design would be sensitive to the scale of the surrounding community. Therefore, for purposes of this analysis, impacts to existing character of the site and surroundings are considered potentially significant, and **MM-AES-1** is provided to reduce the severity of potential impacts to a less-than-significant level.

Renovation of Buildings and Facilities

Renovations to the existing Norman E. Watson Hall and the Skill Center are proposed as project-level elements. The location of these facilities is depicted on Figure 3-4.

As proposed, the existing Norman E. Watson Hall would be renovated to accommodate the campus student service programs and administration. Norman E. Watson Hall is located south of the Student Health Center, west of Lot A, and north of the current Student Center. The closest receptors afforded views of Norman E. Watson Hall are motorists and pedestrians on Fairview Road, and under existing conditions, relatively clear and unimpeded views to Norman E. Watson Hall are available. While motorists and pedestrians are afforded clear views to Norman E. Watson Hall, renovations are not anticipated to entail activities/actions that would substantially alter the exterior design and/or visual character of the existing building. Rather, it is anticipated that the building's interior spaces would be modified to accommodate the additional services and offices. As such, the views and visual experience of Norman E. Watson Hall afforded to off-site receptors along Fairview Road would not be substantially different than under existing conditions. Therefore, impacts to existing visual character and quality of the OCC campus associated with planned renovation of Norman E. Watson Hall would be less than significant.

As viewed from Merrimac Way, the existing Skill Center is located beyond a surface parking lot (Lot E/Merrimac Lot) at a distance of 600 feet and while the white façade of the center is visible, the building is partially screened by vehicles in the Merrimac Lot and by campus landscaping. As a result, the center is a not a particularly prominent visual feature in northerly views from Merrimac Way near Lot E/Merrimac Lot. Furthermore, renovations to the Skills Center are not anticipated to entail activities/actions that would substantially alter the exterior design and/or visual character of the existing building. Because the Skills Center site is effectively screened from receptors by existing campus features (i.e., development and landscaping) and because renovations are not anticipated to be overly apparent to passing motorists, pedestrians, and residences located along Merrimac Way, renovations would not substantially alter the existing visual character of the campus and its surroundings. As such, impacts would be less than significant.

Program-Level Elements

Table 4.1-2 details the proposed new buildings and facilities analyzed in the Vision 2020 Facilities Master Plan PEIR as program-level elements. While project-level details regarding these uses are not yet known, Table 4.1-2 provides the approximate acreage and size (in GSF and ASF) of the proposed new buildings and facilities. Proposed Campus Land Uses (project and program level elements) are depicted on Figure 3-4.

Table 4.1-2
New Construction of Buildings and Facilities (Program-Level Elements)

Building/Area	Category	Acres	Size (GSF[a])	Size (ASF[b])	Parking Spaces
Unscheduled Projects					
OCC Village mixed-use development concept	Auxiliary	5.41	104,871	75,507	150

[a] GSF (gross square feet) is the total area of building measured to the outside of exterior walls, including outdoor covered areas at 50%.
[b] ASF (assignable square feet) is the interior usable floor area of a building and does not include such items as the thickness of interior and exterior walls, mechanical and electrical spaces, restrooms, maintenance areas, and lobby/circulation areas.

A mixed-use development concept called the OCC Village is proposed by the District and if constructed, would be located at the southeastern corner of the OCC campus, near the intersection of Fairview Road and Merrimac Way (see Figure 3-4). This element of the proposed project is assessed at the program-level because project-level detail about the OCC Village development concept is not currently known. When a specific site plan is proposed, this element of the plan would be subject to future CEQA review.

While the specific bulk, scale, and design of the proposed development concept is not yet known, a mix of uses is assumed, and approximately 150 parking spaces will be required for the development. While specific design details are not yet known, the introduction of a mixed-use development at the southeastern corner of campus could obstruct existing views and create a briefly experienced enclosed landscape along Merrimac Way and Fairview Road. In addition, the introduction of a mixed-use development at existing Lot C could obstruct northerly views of residences located to the south across Merrimac Way and would remove the existing visual buffer (i.e., surface parking lots) to campus development currently afforded to residents. Also, because project-level information has not been developed, it is unknown if the development would be sensitive to or consider the scale of the surrounding community that includes single-story single-family residences to the south across Merrimac Way. Therefore, for purposes of this program-level analysis, impacts to the existing character of the site and surroundings associated with the future OCC Village development concept are considered potentially significant. Mitigation (**MM-AES-1**) has been provided to reduce anticipated program-level aesthetic impacts to a less-than-significant level. However, upon development of a specific plan for this proposed component and site, subsequent project-level CEQA review would be required and conducted to evaluate the site-specific impacts related to existing visual character and quality.

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

Project-Level Elements

New Construction of Buildings and Facilities

Project-level campus facilities would feature interior lighting for illumination of classrooms, walkways, restrooms, and other areas and exterior lighting for general illumination, safety, and security purposes. While the specific building materials are not yet known, it is assumed that new facilities would be constructed of similar building materials as existing buildings in order to visually integrate into the existing campus environment. To maintain a consistent lighting scheme across the campus, it is anticipated that new lighting associated with future campus facilities would be of a similar intensity and would operate in a similar fashion as existing lighting sources. Interior lighting would typically operate during the hours in which the new facilities would be open and the minimum number and intensity of exterior lighting to ensure a safe and secure campus environment would be utilized. With the exception of the Student Union/Bookstore/Culinary Arts/Student Success Center, new project-level campus facilities including the Interdisciplinary Complex Phase 2 building, Multidisciplinary Building, Planetarium, and the Dance Building would be located at or near the campus interior, and new sources of lighting would be partially screened from off-site viewers by existing buildings and campus landscaping. While the Student Union/Bookstore/Culinary Arts/Student Success Center would be located on the eastern perimeter of campus and adjacent to Fairview Road, the intended use of the space would be similar to the buildings the Center would replace, and therefore, a similar lighting scheme for the Center is anticipated. Interior and exterior lighting would be installed for general illumination of interior spaces, and exterior lighting would be installed for safety and security purposes. Therefore, because the OCC campus is located within an urbanized area that is currently exposed to nighttime lighting and new lighting associated with future development would operate similarly as existing lighting on campus, implementation of new project-level campus facilities would not adversely affect nighttime views in the area. Furthermore, building materials utilized for future development would be relatively similar to building materials displayed by existing campus development including modern facilities such as Norman E. Watson Hall. As such, implementation of the proposed project would not create a new source of substantial glare that would adversely affect daytime views in the area. As such, impacts would be less than significant.

A specific lighting scheme has not yet been developed for the proposed Adams Lot parking structure; however, it is assumed that interior and exterior lighting would be installed for safety, security, and general illumination. The introduction of new lighting sources would increase the amount of the lighting and potential glare on the OCC campus; however, overhead lighting is currently installed and operates nearby. Outdoor, overhead lighting is currently installed in the Adams Lot, throughout the OCC campus on buildings and along pathways, and at LeBard Stadium. Furthermore, the OCC campus is located in an urbanized environment within which multiple sources of nighttime lighting (including street lights, traffic signals, recreational lighting, and interior and exterior lighting for commercial and residential uses) operate. Therefore, because the Adams Lot parking structure would be located in an urbanized setting in which existing nighttime lighting sources operate, the introduction of the new parking structure and operation of associated lighting would not adversely affect day or nighttime views in the area. Impacts would be less than significant.

The expansion of the Recycling Center would include an expanded parking lot (45 new parking spaces would be provided) and larger point-of-service stations that may include the installation of exterior lighting. However, use of nighttime lighting would be limited as the expanded Recycling Center is anticipated to operate during the same business hours (i.e., Monday through Saturday, 9:00 a.m. to 5:00 p.m.) as the existing center. A modern administration office would also be constructed, and it is anticipated that interior and limited exterior lighting would be installed; however, the operation of the facility would be closely aligned with that of the parking lot and point-of-service stations. Therefore, normal operation is not anticipated to create a new source of substantial light that would affect nighttime views in the area. Lastly, glass windows would be installed within the administration office; however, the limited number of windows along the north-facing wall of the proposed building is not anticipated to create a substantial source of glare that would be received by passing motorists. The potential for these users to receive glare would be reduced by the presence of project landscaping, landscaping located in the Adams Avenue median, and landscaping located north of Adams Avenue. Therefore, potential glare generated by the Recycling Center expansion would not substantially affect daytime views, and impacts would be less than significant.

The proposed Student Housing Project would be located in the northwestern corner of campus, west of Adam Lot and east of the off-campus Harbor at Mesa Verde apartment complex. While a specific lighting plan has not been prepared for the Student Housing Project, it is anticipated that lighting would be mounted to the exteriors of new buildings, and outdoor lighting would be installed within common and recreational areas, along paths, within landscape areas, and within the proposed parking lot that would accommodate future residents of the project. Interior lighting would also be installed within units and would operate during nighttime hours as would lights affixed to any identifying signage that may be installed along Adams Avenue.

While the OCC campus is located in an urbanized setting containing various existing sources of nighttime lighting, the introduction of new lighting sources near an existing multi-family residential development could affect nighttime views. Therefore, for purposes of this analysis, absent specific detail, impacts associated with new sources of lighting and affects to nighttime views are considered potentially significant, and **MM-AES-2** is provided to reduce the severity of potential impacts to a less-than-significant level.

Renovation of Buildings and Facilities

Renovations would occur at the existing Skill Center and Norman E. Watson Hall to meet instructional needs and in the case of Norman E. Watson Hall, to accommodate offices and services that require relocation due to future planned development elsewhere on campus. Additional exterior lighting and new building materials are not anticipated to be required for planned renovations at either the Skill Center or Norman E. Watson Hall, and therefore, impacts associated with new sources of substantial light and glare and adverse effects to day or nighttime views would be less than significant.

Program-Level Elements

New Construction of Buildings and Facilities

As proposed, the OCC Village mixed-use development concept would be located near the intersection of Fairview Road and Merrimac Way and would entail the introduction of new uses where only a parking lot currently exists. Because there are currently no on-campus buildings located near the intersection the introduction of outdoor lighting, advertising, and/or decorative lighting and signage for future development could alter the nighttime visual environment and nighttime views for single-family residential homes located to the south across Merrimac Way. While a lighting plan has not yet been developed for the mixed-use development concept, consideration should be given to the proximity of residential uses in the area and to illumination generated by existing sources of nighttime lighting. While detailed information has yet to be developed, nighttime lighting associated with the OCC Village mixed-use development concept could entail the introduction of new sources of substantial lighting to the area that could affect the existing nighttime views of local residents. Therefore, for purposes of this program-level analysis and absent project-level detail, impacts associated with new sources of lighting at the future OCC Village development site and effects to nighttime views are considered potentially significant. As such, **MM-AES-2** is provided to reduce the severity of potential program-level impacts to a less-than-significant level. However, upon development of a specific plan for this proposed component and site, subsequent project-level CEQA review would be required and conducted to evaluate the site-specific impacts related to lighting and glare.

4.1.5 Mitigation Measures

Mitigation Measures MM-AES-1 and MM-AES-2 are applicable to the Student Housing Project and the OCC Village mixed-use development concept and would be implemented to reduce potential impacts to existing visual character and nighttime views (due to new sources of substantial lighting) to a less-than-significant level. Because project-level information regarding the OCC Village mixed-use development concept including building elevations and materials and architectural style and design are not currently known, this section conservatively analyzes the potential impacts of the OCC Village mixed-use development concept at a program-level and identifies appropriate mitigation measures. Upon development of a plan for this proposed project component, subsequent project-level CEQA review would be required and conducted to evaluate the site-specific impacts related to aesthetics including existing visual character and nighttime views. Once project-level details are known, project-level analysis may identify site- and building-specific mitigation measures that may more fully address and respond to potential impacts to aesthetic resources. However, in the absence of project-level detail, MM-AES-1 is provided and would be implemented during architectural and site design of the future OCC Village mixed-use development concept.

MM-AES-1 Architectural and site design of proposed structures shall consider the existing scale of the surrounding community and implement appropriate measures to reduce bulk and scale. Measures to be considered shall include the following:

- Implementation of appropriate setbacks along sides of structures abutting or fronting public roadways. Setbacks shall strive to be consistent with setbacks displayed by existing development in the area. Building setbacks abutting public rights-of-way shall be landscaped (except for walks and driveways that provide access from a public right-of-way), and parking areas (including structures) shall be developed with perimeter landscaping.
- Implementation of architectural design strategies to reduce the bulk and scale of new buildings abutting or fronting roadways. Strategies to consider include may include step-back design for future development above street level to reduce spatial impingement on adjacent roadways and suitably articulated architectural facades to provide visual interest.
- Implementation of landscape plans featuring drought-tolerant planting material consisting of canopy trees, shrubs, and groundcover to soften the

appearance of structure edges and continuous facades and relieve solid, unbroken elevations. Landscape plans shall be compatible with the architectural characteristics of the proposed structures and be visually compatible with the character of adjacent landscaping. Plant materials shall be suitable for the given soil and climatic conditions and shall consider species currently utilized in Orange Coast College (OCC) campus landscaping.

- If adequate space is available, incorporation of landscape medians and streetscape amenities (or if currently present, enhanced) along segments of roadways abutting the future development site. Landscaping shall incorporate drought-tolerant planting materials including trees, shrubs, and groundcovers, and may consider species identified in the City of Costa Mesa Streetscape and Median Development Standards Recommended Street Tree Palette for Adams Avenue, Arlington Drive, Fairview Road, and Merrimac Way in order to create a consistent landscape theme along perimeter roadways. Landscape median development shall display a consistent theme and be visually compatible with existing landscaping and land-uses as well as with the landscape plan prepared for the proposed development site. Streetscape features shall include enhanced sidewalk paving, raised and/or cut-out planters suitable for shrubs and street trees, seating, lighting, and other features in a cohesive and visually appealing design that establishes a perceptible thematic image that visually unifies architecture and exterior streetscape spaces.
- Future on-campus facilities shall strive to utilize a unifying architectural style that contributes to a unified campus appearance and reflects a consistent architectural character among existing campus facilities in the immediate area.

MM-AES-2 The Coast Community College District (District) shall prepare lighting and signage plans depicting the proposed locations and heights of light poles and signs. The District shall incorporate lighting design specifications to ensure safety and security while also providing adequate illumination for intended uses. The following measures shall be included in all lighting plans:

- Luminaires shall be designed with cutoff-type fixtures or features that cast low-angle illumination to minimize incidental spillover of light onto adjacent off-campus properties. Fixtures that shine light upward or horizontally shall not spill any light onto adjacent off-campus properties.
- Luminaires shall provide accurate color rendering and natural light qualities. Low-pressure sodium and high-pressure sodium fixtures that are not color-corrected shall not be used, except as part of an approved sign or landscape plan.

- Luminaire mountings shall be downcast and pole heights minimized to reduce potential for back scatter into the nighttime sky and incidental spillover light onto adjacent properties. Luminaire mountings shall be treated with non-glare finishes.
- All exterior lighting within 200 feet of residentially zoned property shall be shielded and and/or directed away from residential areas.

4.1.6 Level of Significance After Mitigation

Implementation of Mitigation Measures MM-AES-1 and MM-AES-2 listed above would reduce potentially significant impacts to existing visual character and nighttime views (due to new sources of substantial lighting) to below a level of significance. All other impacts were determined to be less than significant.

4.1.7 Cumulative Impacts

Project- and program-level elements of the proposed project would be located within or immediately adjacent to the OCC campus which is located within an urbanized setting in the City of Costa Mesa. Because proposed project elements would not be visible from the city's coastal bluffs and Talbert Nature Preserve and because existing development and vegetation would partially to fully screen project elements from northeast-oriented views from Fairview Park, the proposed project would not contribute to a cumulative scenic vista impact. Mitigation has been proposed that would reduce potential impacts to existing visual character associated with select program-level elements to a less-than-significant level. Similarly, future development on the OCC campus not included in the Vision 2020 Facilities Master Plan may have the potential to contrast with the visual character embodied and displayed by existing campus facilities, and therefore, consideration of a unifying architectural style and design should also be incorporated into future campus development. Realization of a unified campus appearance and a consistent visual character would ensure that impacts to visual character in the cumulative scenario are less than significant. As stated in Section 4.1.1, the urbanized project setting supports numerous nighttime lighting sources and contains buildings and facilities constructed of reflective materials including glass. Because project- and program-level elements are anticipated to utilize similar lighting schemes and designs as currently used on campus and on surrounding land uses and because proposed buildings and structures would be constructed of building materials currently represented in the surrounding area, potential cumulative impacts to day and nighttime views in the project area would be less than significant. Further, compatibility with existing building materials, lighting plans, and fixture types currently used on campus and in the surrounding area would ensure that future on- and off-campus development would not significantly affect day or nighttime views in the area.

4.1.8 References

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4.2 AIR QUALITY

This section evaluates short-term (construction) and long-term (operational) impacts to air quality that would potentially occur as a result of implementation of the proposed Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project). Applicable laws, regulations, standards and enumerated thresholds established by the South Coast Air Quality Management District (SCAQMD), the California Air Resources Board (CARB), and the U.S. Environmental Protection Agency (EPA) are provided in Section 4.2.2, Existing Conditions, and Section 4.2.3, Thresholds of Significance. Emissions associated with the proposed project were calculated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2 (available online at www.caleemod.com) and are discussed in Section 4.2.4, Impacts Analysis.

4.2.1 Methodology

Air emission sources that would result from implementation of the proposed project would include emissions from motor vehicles calculated using CalEEMod, estimates that are partially based on information derived from the project-specific traffic impact analysis report prepared by Linscott, Law and Greenspan (Appendix G; LLG 2015), and emissions from area sources such as natural gas usage for water and space heating based on CalEEMod default values and campus energy usage. Historical energy usage data from the campus and projected usage under the proposed project were used to provide improved estimates of combustion-rated emissions. Other mobile sources, such as construction equipment, were estimated using CalEEMod default equipment fleet assumptions based on the expected construction methods that would be employed during building demolition and new development under the proposed project. Emissions estimates were then compared against SCAQMD emission-based thresholds for criteria pollutants and other thresholds to determine project impacts.

In addition to air emissions modeling conducted for the proposed project, the following Web page serves as a source of supplementary information for the project's air quality analysis:

- *CEQA Air Quality Handbook* supplemental information (SCAQMD 2015a).

Emission calculations and model outputs can be found in Appendix B.

4.2.1.1 Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts on those persons termed sensitive receptors are the most serious hazards that can result from changes in existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993).

4.2.1.2 Pollutants and Effects

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive people from illness or discomfort. Pollutants of concern include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), particulate matter with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$), and lead (Pb). These pollutants are discussed below.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a colorless gas that is formed in the atmosphere when volatile organic compounds (VOCs), sometimes referred to as reactive organic gases, and oxides of nitrogen (NO_x) react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of VOCs and NO_x, the precursors of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Nitrogen Dioxide. Most NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_x and are major contributors to O_3 formation. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere, with reduced visibility. There is some indication of a relationship between NO_2 and

[1] The following descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the Environmental Protection Agency (EPA) Six Common Air Pollutants (EPA 2015a) and the California Air Resources Board Glossary of Air Pollutant Terms (CARB 2015a) published information.

chronic pulmonary fibrosis, and some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million by volume (ppm).

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

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

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs. Inhalable or coarse particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as producing haze and reducing regional visibility.

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

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

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC.

4.2.2 Existing Conditions

The proposed project is located within the South Coast Air Basin (basin). The basin is characterized as having a Mediterranean climate (typified as semiarid with mild winters, warm summers, and moderate rainfall). The basin is a 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.

The general region lies in the semipermanent, high-pressure zone of the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the South Coast Air Basin is a function of the area's natural physical characteristics (e.g., weather and topography), as well as man-made influences (e.g., development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the basin.

4.2.2.1 Relevant Plans, Policies, and Ordinances

Regulatory oversight for air quality in the South Coast Air Basin is maintained at the by CARB at the state level, and by the SCAQMD at the local level. Applicable laws, regulations, and standards of these three agencies are described in the following subsections.

Federal

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including the setting of National Ambient Air Quality Standards (federal standards) for major air pollutants, hazardous air pollutant standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions. Federal standards are established for "criteria pollutants" under the Clean Air Act, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The federal standards describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The federal standards (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. federal standards for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the federal standards at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the federal standards must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the federal standards to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels.

State

CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (state standards), which are generally more restrictive than the federal standards. The state standards describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. The state standards for O_3, CO, SO_2 (1 hour and 24 hours), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The federal and state standards are presented in Table 4.2-1, Ambient Air Quality Standards.

Table 4.2-1
Ambient Air Quality Standards

Pollutant	Average Time	State Standards[a]	Federal Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 μg/m^3)	—	Same as primary standard
	8 hours	0.070 ppm (137 μg/m^3)	0.075 ppm (147 μg/m^3)	
CO	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None
	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	
NO_2	1 hour	0.18 ppm (339 μg/m^3)	0.100 ppm (188 μg/m^3)	Same as primary standard
	Annual arithmetic mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	
SO_2	1 hour	0.25 ppm (655 μg/m^3)	0.75 ppm (196 μg/m^3)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m^3)
	24 hours	0.04 ppm (105 μg/m^3)	—	—
PM_{10}[f]	24 hours	50 μg/m^3	150 μg/m^3	Same as primary standard
	Annual arithmetic mean	20 μg/m^3	—	
$PM_{2.5}$[f]	24 hours	No separate state standard	35 μg/m^3	Same as primary standard
	Annual arithmetic mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3

Table 4.2-1
Ambient Air Quality Standards

Pollutant	Average Time	State Standards[a]	Federal Standards[b]	
		Concentration[c]	*Primary[c,d]*	*Secondary[c,e]*
Lead[g]	30-day average	1.5 µg/m³	—	—
	Calendar quarter	—	1.5 µg/m³	Same as primary standard
	Rolling 3-month average	—	0.15 µg/m³	
Hydrogen sulfide	1 hour	0.03 ppm	—	—
Vinyl chloride[g]	24 hours	0.01 ppm	—	—
Sulfates	24 hours	25 µg/m³	—	—
Visibility-reducing particles	8 hours (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%	—	—

Source: CARB 2013.

O_3 = ozone; ppm = parts per million by volume; µg/m³ = micrograms per cubic meter; CO = carbon monoxide; mg/m³ = milligrams per cubic meter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

[a] State standards for O_3, CO, SO_2 (1 hour and 24 hours), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$, and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California Ambient Air Quality Standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations (CCR).

[b] Federal standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For NO_2 and SO_2, the standard is attained when the 3-year average of the 98th and 99th percentile, respectively, of the daily maximum 1-hour average at each monitoring station within an area does not exceed the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

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

[d] Federal primary standards: The levels of air quality necessary with an adequate margin of safety to protect the public health.

[e] Federal secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On December 14, 2012, the federal annual $PM_{2.5}$ primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing federal 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 PM_{10} 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.

[g] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Local

Local Plan

The SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the South Coast Air Basin, where the proposed project is located. The SCAQMD operates monitoring stations in the basin, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The SCAQMD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain state and federal ambient air quality standards in the basin. The SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

The most recent AQMP was adopted by the SCAQMD governing board on February 1, 2013 (SCAQMD 2013). The previous AQMP, adopted in 2007 (SCAQMD 2007), was prepared by SCAQMD and the Southern California Association of Governments (SCAG). The 2007 AQMP proposed policies and measures to achieve federal and state standards for improved air quality in the South Coast Air Basin and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under SCAQMD jurisdiction. The 2007 AQMP incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. As part of the 2007 AQMP, the SCAQMD requested that the EPA "bump up" the O_3 nonattainment status from severe to extreme to allow additional time for the South Coast Air Basin to achieve attainment of the federal standard. The additional time would provide for implementation of state and federal measures that apply to sources over which the SCAQMD does not have control. The 2007 AQMP was approved by CARB; however, on November 22, 2010, the EPA issued a proposed rule to approve in part and disapprove in part the portions related to attainment of the federal $PM_{2.5}$ standards. The EPA, however, approved the redesignation of the basin to an extreme O_3 nonattainment area, effective June 4, 2010.

The 2012 AQMP incorporates new scientific data and updated emission inventory methodologies and planning assumptions, including the 2012 *Regional Transportation Plan/Sustainable Communities Strategy*. The 2012 AQMP includes the new federal requirements and develops compliance approaches (SCAQMD 2013).

Applicable Rules

Emissions that would result from stationary and area sources during operation under the proposed master plan revision may be subject to SCAQMD rules and regulations. The SCAQMD rules applicable to the proposed project may include the following:

- **Rule 401 – Visible Emissions.** This rule establishes the limit for visible emissions from stationary sources. This rule prohibits visible emissions as dark as or darker than Ringelmann No. 1 for periods greater than 3 minutes in any hour.

- **Rule 402 – Nuisance.** This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.
- **Rule 403 – Fugitive Dust.** This rule requires fugitive dust sources to implement best available control measures for all sources to ensure all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.
- **Rule 431.2 – Sulfur Content of Liquid Fuels.** The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of both reducing the formation of SO_x and particulates during combustion and to enable the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers, such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the district. The rule also affects diesel fuel supplied for mobile-source applications.

4.2.2.2 Climate and Meteorology

Moderate temperatures, comfortable humidity, and limited precipitation characterize the climate in the South Coast Air Basin. The average annual temperature varies little throughout the basin, averaging 75 degrees Fahrenheit (°F). However, with a less pronounced oceanic influence, the eastern inland portions of the basin show greater variability in annual minimum and maximum temperatures. All portions of the basin have recorded temperatures over 100°F in recent years. January is usually the coldest month at all locations, while July and August are usually the hottest months of the year. Although the basin has a semiarid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry air is brought into the basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70% at the coast and 57% in the eastern part of the basin. Precipitation in the basin is typically 9 to 14 inches annually and is rarely in the form of snow or hail, due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the basin. More specifically, Costa Mesa enjoys a mild climate. The greatest precipitation in this area occurs in January and February, during which time the rainfall averages 2.1 and 2.7 inches, respectively. The coolest months of the year are typically December and January, with an average low of 49°F and 50°F, respectively. The warmest months are typically August and September, with an average high of 72°F (Weather Channel 2015).

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain primary pollutants (mainly VOCs and NO_x) react to form secondary pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind of the emission sources. Due to the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California.

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air would be mixed and dispersed into the upper atmosphere. However, the Southern California region frequently experiences temperature inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry air overlying cool, moist marine air, is a normal condition in coastal Southern California. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air above it, which acts as a lid through which the marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above mean sea level (amsl), the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet amsl, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet amsl, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the daylight hours. Mixing heights for inversions are lower in the summer and are more persistent, being partly responsible for the high levels of O_3 observed during summer months in the basin. Smog in Southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting in the presence of sunlight. The basin has a limited ability to disperse these pollutants due to typically low wind speeds and the surrounding mountain ranges.

The OCC campus is located in an area that is susceptible to air inversions. This traps a layer of stagnant air near the ground, where pollutants are further concentrated. These inversions produce haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources.

4.2.2.3 Local Ambient Air Quality

An area is designated as "in attainment" when it is in compliance with the federal and/or state standards. These standards are set by the EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or public welfare with a margin of safety.

The criteria pollutants of primary concern considered in this air quality assessment include O_3, NO_2, CO, SO_2, PM_{10}, $PM_{2.5,}$ and lead. Although there are no ambient air quality standards for VOCs or NO_x, they are important because they are precursors to O_3.

The entire South Coast Air Basin is designated as a nonattainment area for both federal and state O_3 standards. The EPA has classified the basin as an extreme nonattainment area and has mandated that it achieve attainment no later than June 15, 2024. The basin is designated as an attainment area for state and federal CO standards. The basin is designated as an attainment area under the federal standards for NO_2; however, it is designated nonattainment under the state standard. The entire basin is in attainment with both federal and state SO_2 standards. It has not yet been designated for federal lead standards, and Los Angeles County is designated nonattainment for state lead standards.

The basin is designated as a nonattainment area for state PM_{10} standards; however, it is designated as an attainment area for federal standards. In regard to $PM_{2.5}$ attainment status, the basin is designated as a nonattainment area by CARB and the EPA.

The attainment classifications for these criteria pollutants are outlined in Table 4.2-2, South Coast Air Basin Attainment Classification.

Table 4.2-2
South Coast Air Basin Attainment Classification

Pollutant	Averaging Time	Designation/Classification
	Federal Standards	
O_3	8 hours	Nonattainment/extreme
NO_2	1 hour Annual arithmetic mean	Unclassifiable/attainment Attainment (maintenance)
CO	1 hour; 8 hours	Attainment (maintenance)
SO_2	24 hours; annual arithmetic mean	Unclassifiable/attainment
PM_{10}	24 hours	Attainment (maintenance)
$PM_{2.5}$	24 hours; annual arithmetic mean	Nonattainment
Pb	Quarter	Unclassifiable/attainment (Los Angeles County)
	3-month average	Nonattainment (Los Angeles County)
	State Standards	
O_3	1 hour; 8 hours	Nonattainment
NO_2	1 hour; annual arithmetic mean	Nonattainment
CO	1 hour; 8 hours	Attainment
SO_2	1 hour; 24 hours	Attainment
PM_{10}	24 hours; annual arithmetic mean	Nonattainment
$PM_{2.5}$	Annual arithmetic mean	Nonattainment
Pb[a]	30-day average	Attainment
Sulfates (SO_4)	24 hours	Attainment
Hydrogen sulfide (H_2S)	1 hour	Unclassified
Vinyl chloride[a]	24 hours	No designation
Visibility-reducing particles	8 hours (10:00 a.m.–6:00 p.m.)	Unclassified

Sources: EPA 2015b (federal); CARB 2014 (state).

O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; Pb = lead

[a] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined.

The project area's local ambient air quality is monitored by the SCAQMD and CARB. CARB monitors ambient air quality at over 250 air-monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The Costa Mesa Monitoring Station, located along Mesa Verde Drive East in the City of Costa Mesa, is the nearest air-monitoring station to the project area. The data collected at this station are considered representative of the air quality experienced in the project vicinity. Air quality data from 2010 through 2012 for the Costa Mesa Monitoring Station are provided in Table 4.2-3, Ambient Air Quality Data. Because PM_{10} and $PM_{2.5}$ levels were not monitored at the Costa Mesa Monitoring Station, measurements were taken from the Anaheim Monitoring Station.

Table 4.2-3
Ambient Air Quality Data
(ppm unless otherwise indicated)

Pollutant	Averaging Time	2011	2012	2013	2014	Most Stringent Ambient Air Quality Standard	Monitoring Station
O_3	1 hour	0.093	0.090	0.095	0.096	0.09	Costa Mesa[a]
	State exceedances	0	0	1	1		
	8 hours	0.077	0.076	0.084	0.080	0.070	
	Federal exceedances	1	1	1	4		
	State exceedances	2	1	2	6		
PM_{10}	24 hours	53.0 μg/m³	48.0 μg/m³	77.0 μg/m³	85.0 μg/m³	50 μg/m³	Anaheim[b]
	Federal exceedances	0	0	0	0		
	State exceedances	12.2	0	5.7	12.0		
	Annual	24.7	22.3	25.2	26.7	20 μg/m³	
$PM_{2.5}$	24 hours	39.2 μg/m³	50.1 μg/m³	37.8 μg/m³	56.2 μg/m³	35 μg/m³	Anaheim[b]
	Federal exceedances	2.0	4.2	1.1	6.5		
	Annual	15.9	10.8	10.1	16.2	12 μg/m³	
NO_2	1 hour	0.061	0.074	0.076	0.061	0.100	Costa Mesa[a]
	Annual	N/A	N/A	N/A	0.010	0.030	
CO	1 hour	2.9	2.1	2.4	2.7	20	Costa Mesa[a]
	8 hours	2.2	1.7	2.0	1.9	9.0	

Table 4.2-3
Ambient Air Quality Data
(ppm unless otherwise indicated)

Pollutant	Averaging Time	2011	2012	2013	2014	Most Stringent Ambient Air Quality Standard	Monitoring Station
SO_2	1 hour	0.008	0.006	0.004	0.009	0.25	Costa Mesa[a]
	24 hours	0.001	0.001	0.001	0.001	0.040	

Sources: CARB 2015b; EPA 2014.
Note: Data were taken from CARB iADAM (2014; http://www.arb.ca.gov/adam) or EPA AirData (2014; http://www.epa.gov/airdata/) and represent the highest concentrations experienced over a given year. Exceedances of federal and state standards are only shown for ozone and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed either federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM_{10}, or 24-hour $S0_2$, nor is there a state 24-hour standard for $PM_{2.5}$.
ppm = parts per million; O_3 = ozone; PM_{10} = coarse particulate matter; μg/m3 = micrograms per cubic meter; $PM_{2.5}$ = fine particulate matter; NO_2 = nitrogen dioxide; N/A = not applicable; CO = carbon monoxide; SO_2 = sulfur dioxide
[a] Costa Mesa Monitoring Station is at 2850 Mesa Verde Drive East, Costa Mesa, California 92626.
[b] Anaheim Monitoring Station is at 1630 West Pampas Lane, Anaheim, California 92802.

4.2.2.4 Existing Emissions

Emissions generated during operation of existing OCC buildings and facilities were estimated to provide a baseline for comparison to projected operational emissions generated by buildout of buildings and facilities in the proposed project. Year 2013 was used to represent existing conditions.[2] Operation of the project would produce VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from area sources, energy sources, and mobile sources. Area sources include the use of consumer products, architectural coatings, and landscaping equipment. Energy sources include emissions associated with natural gas consumption. Mobile sources include emissions associated with motor vehicle trips to project land uses. The existing operation of the campus generates air emissions primarily through vehicular traffic generated by off-campus students, faculty, staff, employees, and visitors to the campus.

Emissions associated with existing daily traffic were modeled using weekday trip-generation rates, which were calculated using the project traffic generation values provided in the traffic impact analysis report. CalEEMod default Saturday and Sunday trip-generation rates were adjusted based on weekday trip-generation rates per land use type, as weekend trip-generation rates were not provided in the traffic impact analysis report. CalEEMod default data for temperature, variable start information, and emission factors were conservatively used for the model inputs. Project-related traffic was assumed to consist of a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2013 emission factors were used to represent existing conditions.

[2] Most of the existing data for the campus reflect conditions in the 2011 to 2013 time frame. CalEEMod does not include an option to estimate emissions for 2011 or 2012. Thus, 2013 was selected for purposes of the baseline analysis.

In addition to estimating mobile source emissions, CalEEMod was also used to estimate emissions from the project area sources, which include gasoline-powered landscape maintenance equipment, consumer products, and architectural coatings for the maintenance of buildings. The estimated existing operational emissions were based on existing land use defaults and total area (i.e., square footage) of OCC buildings and facilities that were in operation in 2013. Existing development of academic, general administrative, auxiliary, and inactive land uses on the campus totals 944,394 gross square feet (GSF) and 9,832 parking lot spaces. Default values provided by CalEEMod were changed for the VOC content of architectural coatings. The interior non-residential architectural coating VOC content was changed to 50 grams per liter (g/L) from the default value of 250 g/L in CalEEMod based on compliance with SCAQMD Rule 1113 and use of low-VOC flat coatings.

Emissions from energy sources, which include natural gas appliances and space and water heating, were also estimated using CalEEMod. Default values for indoor and outdoor water use were changed to 52,808,200 and 30,392,820 gallons per year, respectively, based on water consumption from July 2011 through June 2012. Solid waste generation rates were changed to 200 tons per year based on generation rates for the year 2011. Natural gas consumption defaults were also revised through Title 24 and non-Title 24 natural gas energy intensities to values of 17.45 and 8.53 thousand British thermal units per 1,000 square feet per year, respectively, to reflect OCC's natural gas consumption from July 2011 through June 2012.

Table 4.2-4, Existing Conditions 2013 Estimated Maximum Daily Operational Emissions, presents the maximum daily emissions associated with the operation of the existing OCC buildings and facilities. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix B.

Table 4.2-4
Existing Conditions 2013 Estimated Maximum Daily Operational Emissions (unmitigated)

	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Area source emissions	103.43	0.01	1.16	<0.01	<0.01	<0.01
Energy source emissions	0.72	6.59	5.54	0.04	0.50	0.50
Mobile source emissions	117.14	272.76	1,259.49	2.42	178.19	50.54
Total Emissions	**221.29**	**279.36**	**1,266.19**	**2.46**	**178.69**	**51.04**

Note: See Appendix B for complete results.
lb/day = pounds per day; VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

4.2.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to air quality are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to air quality would occur if the project would:

1. ***Conflict with or obstruct implementation of the applicable air quality plan.***
2. ***Violate any air quality standard or contribute substantially to an existing or projected air quality violation.***
3. ***Result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors).***
4. ***Expose sensitive receptors to substantial pollutant concentrations.***
5. ***Create objectionable odors affecting a substantial number of people.***

No topics related to air quality were eliminated in the Initial Study for the proposed project; therefore, all topics are covered in the impacts analysis.

In addition, Appendix G of the CEQA Guidelines indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the proposed project would have a significant impact on air quality. The SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993), as supplemented in March 2015, sets forth quantitative emission significance thresholds below which a project would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4.2-5, SCAQMD Air Quality Significance Thresholds, are exceeded. A project would result in a substantial contribution to an existing air quality violation of the federal or state standards for O_3 (see Table 4.2-2), which is a nonattainment pollutant, if the project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 4.2-5. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly (see the previous discussion of O_3 and its sources), and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods.

Table 4.2-5
SCAQMD Air Quality Significance Thresholds

Pollutant	Construction	Operation
Criteria Pollutants Mass Daily Thresholds		
VOCs	75 lb/day	55 lb/day
NO_x	100 lb/day	55 lb/day
CO	550 lb/day	550 lb/day

Table 4.2-5
SCAQMD Air Quality Significance Thresholds

Pollutant	Construction	Operation
SO_x	150 lb/day	150 lb/day
PM_{10}	150 lb/day	150 lb/day
$PM_{2.5}$	55 lb/day	55 lb/day
Lead[a]	3 lb/day	3 lb/day
TACs and Odor Thresholds		
TACs[b]	Maximum incremental cancer risk ≥ 10 in 1 million Chronic & acute hazard index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants[c]		
NO_2 1-hour average NO_2 annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)	
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
PM_{10} 24-hour average PM_{10} annual average	10.4 $\mu g/m^3$ (construction)[d] 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$	
$PM_{2.5}$ 24-hour average	10.4 $\mu g/m^3$ (construction)[d] 2.5 $\mu g/m^3$ (operation)	

Source: SCAQMD 2015b.
Notes: Greenhouse gas thresholds for industrial projects, as added in the March 2015 revision to the SCAQMD Air Quality Significance Thresholds, were not include included in Table 4.2-4 as they will be addressed within the greenhouse gas emissions analysis and not the air quality study.
SCAQMD = South Coast Air Quality Management District; VOC = volatile organic compounds; lb/day = pounds per day; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO_2 = nitrogen dioxide; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

a The phase-out of leaded gasoline started in 1976. Since gasoline no longer contains lead, the proposed project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.
b TACs include carcinogens and non-carcinogens.
c Ambient air quality standards for criteria pollutants based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.
d Ambient air quality threshold based on SCAQMD Rule 403.

In addition to the emission-based thresholds in Table 4.2-5, the SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the project as a result of construction activities. The significance thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. For project sites of 5 acres or less, SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology; SCAQMD 2008) includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO_2, CO, PM_{10}, and $PM_{2.5}$) without performing project-specific dispersion modeling. The allowable emission rates depend on the following parameters:

a) Source–Receptor Area in which the project is located
b) Size of the project site
c) Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals).

The project site is located in Source–Receptor Area 18 (North Coastal Orange County). Campus building projects would be located near sensitive receptors (e.g., residences, K–12 schools). Of the proposed project components, four were analyzed because construction of these facilities could occur relatively close to sensitive receptors: the student housing project, the Skill Center renovation, the Recycling Center construction, and the Student Union/Bookstore/Culinary Arts/Student Success Center (Student Union). The values from the SCAQMD lookup tables for Source–Receptor Area 18 for project sites of 1, 2, and 5 acres and the closest distances (25, 50, 100, 200, and 500 meters (approximately 80, 160, 330, 660, and 1,640 feet)) are shown in Table 4.2-6.

Table 4.2-6
LSTs for Source–Receptor Area 18

Pollutant	Thresholds (lb/day)														
	1 Acre					*2 Acres*					*5 Acres*				
	25 meters	*50 meters*	*100 meters*	*200 meters*	*500 meters*	*25 meters*	*50 meters*	*100 meters*	*200 meters*	*500 meters*	*25 meters*	*50 meters*	*100 meters*	*200 meters*	*500 meters*
NO_2	92	93	108	140	219	131	128	139	165	235	197	190	202	223	278
CO	647	738	1,090	2,096	6,841	962	1,089	1,506	2,615	7,493	1,711	1,864	2,455	3,888	9,272
PM_{10}	4	13	27	54	135	7	21	35	62	144	14	44	57	85	167
$PM_{2.5}$	3	5	9	22	76	5	7	12	26	83	9	11	18	35	101

Source: SCAQMD 2008, Appendix C.
Note: Localized significance thresholds are shown for 1-, 2-, and 5-acre project sites corresponding to a distance to a sensitive receptor of 25, 50, 100, 200, and 500 meters.
LST = localized significance threshold; lb/day = pounds per day; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

4.2.4 Impacts Analysis

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

OCC is located within the South Coast Air Basin under the jurisdiction of the SCAQMD, which is the local agency responsible for administration and enforcement of air quality regulations for the area. Construction and operation of the development proposed as part of the proposed project may result in the emissions of additional short- and long-term criteria air pollutants in conflict with the SCAQMD AQMPs.

While striving to achieve the federal standards for O_3 and $PM_{2.5}$ through a variety of air quality control measures, the 2012 AQMP also accommodates planned growth in the basin. Projects are considered consistent with, and would not conflict with or obstruct implementation of, the AQMP if the growth in socioeconomic factors (e.g., population, employment) is consistent with the underlying regional plans used to develop the AQMP. As indicated in Chapter 3 of the 2012 AQMP, demographic growth forecasts for various socioeconomic categories developed by SCAG for its 2012 Regional Transportation Plan were used to estimate future emissions in the 2012 AQMP (SCAQMD 2013).

Development of the proposed student housing project would increase the on-campus residential population from 0 to approximately 818. In addition, the proposed project would involve an increase in student enrollment. OCC had an enrollment of 21,410 students in 2012, and enrollment is projected to grow to 28,332 students by 2020 (District 2011; OCC 2012). According to SCAG, the City of Costa Mesa (City) is expected to have a population of 113,700 by the year 2020. An increase of 818 on-campus residents and 6,922 new students associated with campus growth would account for 6.81% of SCAG's population projections, which would account for a minor percentage of SCAG's overall growth projections. However, this projection is consistent with SCAG's growth projections for the City and the student housing project is specifically intended to accommodate projected enrollment increases at OCC.

For the 2012 fall semester, the student headcount enrollment was 21,410, and the employee count was 948, representing a student-to-employee ratio of 23 to 1 (CCCCO 2015). Assuming that this same ratio is maintained upon buildout of the proposed project, this would result in an employee count of 1,232, or a net growth of 284 employees by the year 2020. This net growth is only 0.32% of SCAG's overall growth projection of 88,300 employees for the City by 2020. Therefore, employee growth is consistent with SCAG's overall growth projections and would not result in a substantial increase in employment growth.

Accordingly, the proposed project would result in population growth that is consistent with SCAG's growth projections anticipated in the SCAQMD's 2012 AQMP. Because the planned growth of the proposed project has been factored into the underlying growth projections of the 2012 AQMP, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. Thus, this impact would be less than significant.

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

Construction and operation of the proposed project may result in the emission of criteria air pollutants from mobile, area, and/or stationary sources, which may cause exceedances of federal and state ambient air quality standards or contribute to existing nonattainment of ambient air quality standards. The following discussion identifies potential short- and long-term impacts that would result from implementation of the proposed project. Feasible mitigation measures to reduce or avoid any potential significant impacts, as appropriate, are proposed.

Construction Impacts

Construction of the proposed project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, dust emissions, and combustion pollutants from on-site construction equipment, as well as from employee vehicles and off-site trucks hauling construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

As stated in Chapter 3, Project Description, development of the proposed project is planned incrementally. Phasing for development is planned in four segments, including an unscheduled phase, resulting in an estimated buildout of the proposed project by 2024. The Multidisciplinary Building, Parking Structure, Skill Center renovation, and the OCC Village are unscheduled; however, all of the facilities were assumed to be constructed at the end of Phase 3 for purposes of the emissions calculations. Accordingly, construction emissions were modeled by each project component in three separate phases: Phase 1 (2015–2017), Phase 2 (2017–2019), and Phase 3 (2019–2024).

Emissions from the construction of each project component were estimated using CalEEMod. Table 4.2-7, Construction Equipment, presents an example of the construction equipment mix utilized for the air emissions modeling of the proposed project. The equipment mix was generally followed for all construction modeling scenarios (i.e., construction of the Adaptive Physical Education, Gymnasium, and Pool Facilities; the student housing project; and the Language Arts and Social Sciences Building). For analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours a day (or less), 5 days a week (22 days per month), during project construction. However, the construction phases (i.e., demolition, grading), construction equipment, and equipment hours of operation varied depending on the project component. Specific CalEEMod assumptions for each model scenario, including quantity of equipment, are provided in Appendix B.

Table 4.2-7
Construction Equipment

Construction Phase	Equipment
Demolition	Concrete/industrial saws
	Rubber Tired Dozers
	Tractors/loaders/backhoes
Site Preparation	Rubber Tired Dozers
	Tractors/Loaders/Backhoes
Grading	Rubber Tired Dozers
	Graders
	Trackers/loaders/backhoes
Trenching	Trenchers
	Plate compactors
	Trackers/loaders/backhoes
Building construction	Cranes
	Forklifts
	Welders
	Generator sets
	Trackers/loaders/backhoes
Paving	Paving equipment
	Cement and mortar mixers
	Pavers
	Rollers
	Tractors/Loaders/Backhoes
Architectural coating	Air compressors

Ground disturbances and equipment operation during construction activities, specifically during the grading and site preparation phases, would produce short-term PM_{10} and $PM_{2.5}$ emissions. Implementation of the proposed project would generate construction-related air pollutant emissions from two general activity categories: entrained dust and vehicle emissions. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Vehicle exhaust results from internal combustion engines used by construction equipment and vehicles, which results in emissions of NO_x, VOCs, CO, SO_x, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior/interior paint and other finishes, would also produce VOC emissions.

Default values provided by CalEEMod were changed for the VOC content of architectural coatings. The interior non-residential architectural coating VOC content was changed to 50 g/L from the default value of 250 g/L in CalEEMod based on compliance with SCAQMD Rule 1113 and use of low-VOC flat coatings. The exterior non-residential architectural coating VOC content was changed to 100 g/L from the default value of 250 g/L in CalEEMod for traffic coating applications, which is assumed to be used for parking lot and parking structure striping. During Phase 1, new construction of the Planetarium and Recycling Center would total 21,130 GSF, renovation of Norman E. Watson Hall would total 58,603 GSF, and the total size of buildings demolished would be 26,376 GSF.[3] Construction was assumed to commence in December 2015 and reach completion by December 2016, for a total duration of approximately 12 months.[4] Table 4.2-8, Phase 1 Estimated Maximum Daily Construction Emissions, presents the estimated maximum unmitigated daily construction emissions generated during construction of the proposed project in Phase 1. Concurrent building construction of the Planetarium and the Recycling Center Expansion would occur in 2016. Concurrent building construction and renovation would occur between the Planetarium and the Norman E. Watson Hall Renovation in 2016. Concurrent construction would not occur between the Recycling Center and the Norman E. Watson Hall Renovation. In this case, maximum daily emissions per pollutant for these individual project components in which schedule overlap would occur were totaled for 2016 to provide a potential estimate of the maximum daily emissions during each year of construction.

Table 4.2-8
Phase 1 Estimated Maximum Daily Construction Emissions
(unmitigated)

	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
2015						
Recycling Center	5.33	56.99	43.72	0.04	10.34	6.77
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No
2016						
Recycling Center	7.12	20.10	15.83	0.03	2.02	1.47
Planetarium	12.76	30.03	23.55	0.03	3.75	2.46
Norman E. Watson Hall Renovation	54.71	18.03	13.62	0.02	1.54	1.21

3 It should be noted that the estimated number of buildings to be constructed in each phase and the construction schedule are based on current estimates. The actual number and schedule may change; however, these assumed estimates are representative for purposes of assessing the potential for significant air quality impacts.

4 It should be noted that timing estimates of the proposed project buildout were based on the preliminary project phasing schedule. Because CalEEMod uses real dates (e.g., January 15, 2024) to calculate construction emissions, assumptions were made as to key dates for each phase. While all dates reflected in this Program Environmental Impact Report (PEIR) are estimates and may actual dates may differ depending on funding, weather, future campus needs, and other factors, this analysis represents a conservative assessment of likely air quality impacts.

Table 4.2-8
Phase 1 Estimated Maximum Daily Construction Emissions
(unmitigated)

	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Total of project components with concurrent building construction[a]	**67.47**	**50.13**	**39.38**	**0.06**	**5.77**	**3.93**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No

Note: See Appendix B for complete results. These estimates reflect control of fugitive dust required by Rule 403 for the Recycling Center and Planetarium.
lb/day = pounds per day; VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

[a] Project components with concurrent building construction include the Planetarium and the Recycling Center Expansion. Concurrent building renovation and construction would occur between the Recycling Center Expansion and the Norman E. Watson Hall Renovation. Concurrent construction would not occur between the construction of the Planetarium and the Norman E. Watson Hall Renovation. Maximum daily emissions per pollutant for these individual project components in which schedule overlap would occur were totaled for 2016 to provide a potential estimate of the maximum daily emissions during each year of construction.

Maximum daily emissions of NO_x would occur during the grading phases for all projects as a result of off-road equipment operation and on-road haul trucks. Fugitive dust and off-road equipment emissions during the site preparation and grading phases would generate the maximum daily $PM_{2.5}$ emissions. Maximum daily PM_{10} emissions would also occur during the site preparation and grading phases. The application of architectural coatings would produce the maximum daily VOC emissions.

As shown in Table 4.2-8, daily construction emissions would not exceed the thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during Phase 1 construction. New construction of buildings and facilities in Phase 2 would total 591,971 GSF and a total of 32,858 GSF of buildings would be demolished. Phase 2 construction was assumed to start in January 2017 and finish in September 2019, lasting approximately 33 months.

Table 4.2-9, Phase 2 Estimated Maximum Daily Construction Emissions, presents the estimated maximum unmitigated daily construction emissions generated during Phase 2 construction. Concurrent building construction of the Student Union and the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office would occur during 2018 and 2019. Since overlap would not occur with the student housing project, the highest emissions for either the maximum daily emissions of the student housing project, or the total of the maximum daily emissions of the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office, and the Student Union are presented for 2018. The individual project component emissions are totaled between the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office, and the Student Union in 2019.

Table 4.2-9
Phase 2 Estimated Maximum Daily Construction Emissions
(unmitigated)

	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
2017						
Student housing project	4.34	41.39	33.93	0.07	7.72	2.77
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No
2018						
Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office	4.35	45.68	37.06	0.05	9.61	6.10
Student Union	4.35	45.68	39.94	0.07	9.61	6.10
Student housing project	132.39	23.82	28.63	0.06	3.95	1.95
Total of project component maximum daily emissions[a]	**132.39**	**91.36**	**77.00**	**0.12**	**19.22**	**12.20**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**YES**	No	No	No	No	No
2019						
Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office	50.74	22.84	22.16	0.04	2.16	1.46
Student Union	98.06	23.39	23.62	0.04	2.41	1.54
Total of project component maximum daily emissions[b]	**148.80**	**46.23**	**45.78**	**0.08**	**4.57**	**3.00**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**YES**	No	No	No	No	No

Note: See Appendix B for complete results. These estimates reflect control of fugitive dust required by Rule 403 for the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office; student housing project; and the Student Union/Bookstore/Culinary Arts/Student Success Center.
lb/day = pounds per day; VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; PE = physical education

[a] Project components with concurrent building construction include the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office, and the Student Union. Since overlap would not occur with the student housing project, the highest emissions for either the maximum daily emissions of the student housing project, or the total of the maximum daily emissions of the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office, and the Student Union are presented in 2018.

[b] Project components with concurrent building construction include the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office, and the Student Union. The individual project component emissions are totaled between the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office, and the Student Union in 2019.

Maximum daily emissions of NO_x would occur during the grading phases for all projects as a result of off-road equipment operation and on-road haul trucks. Fugitive dust and off-road equipment emissions during the site preparation and grading phases would generate the maximum daily $PM_{2.5}$ emissions. Maximum daily PM_{10} emissions would also occur during the site preparation and grading phases. The application of architectural coatings would produce the maximum daily VOC emissions.

As shown in Table 4.2-9, maximum construction-generated VOC emissions of approximately 132 pounds per day in 2018 and 149 pounds per day in 2019 would exceed the SCAQMD's quantitative significance threshold of 75 pounds per day. Daily construction emissions would not exceed the thresholds for NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. As such, construction of the proposed project during Phase 2 would result in a potentially significant impact to air quality related to VOC emissions. Mitigation measure **MM-AQ-1** (see Section 4.2.5, Mitigation Measures) shall be incorporated during Phase 2 construction to lessen impacts related to VOC emissions. Upon implementation of mitigation measure **MM-AQ-1**, impacts related to VOC emissions would be less than significant.

Phase 3 consists of construction of 107,760 GSF of a new Language Arts and Social Sciences Building, the construction of a new 43,916 GSF Chemistry Building, the construction of a 32,000 GSF Dance Building and the demolition of 83,677 GSF of buildings. Construction is assumed to commence in January 2020 and reach completion in March 2021, a total of 15 months of construction. The construction of the Multidisciplinary Building, parking structure, OCC Village, and the renovation of the Skill Center, and the demolition of 133,252 GSF is currently unscheduled. For the purpose of this analysis, it was assumed that the Multidisciplinary Building would be constructed at the end of Phase 3, commencing in May 2021 with completion in November 2021. It was assumed the Skill Center would be constructed beginning in January 2022 and ending in May 2022. It was assumed that the OCC Village would be constructed beginning in June 2022 with completion in August 2023. It was assumed that the parking structure would be constructed beginning in September 2023 with completion in November 2024.

Table 4.2-10, Phase 3 Estimated Maximum Daily Construction Emissions, presents estimated maximum unmitigated daily construction emissions generated during Phase 3 construction. Project components with concurrent building construction include the Chemistry Building and the Dance Building for 2020 and 2021. Since overlap would not occur with the Language Arts and Social Sciences Building in 2020, the highest emissions for the maximum daily emissions of the Language Arts and Social Sciences Building, or the total of the maximum daily emissions of the Chemistry Building and the Dance Building are presented. Since overlap would not occur with the Multidisciplinary Building in 2021, the highest emissions for either the maximum daily emissions of the Multidisciplinary Building, or the total of the maximum daily emissions of the Chemistry Building and the Dance Building are presented. Overlap would not occur between construction of the OCC Village and the renovation of the Skill Center, or between the construction of the OCC Village and the construction of the parking structure. However, to account for possible changes in scheduling, the individual project components were totaled to provide a conservative estimate of the maximum daily emissions for each year of construction. Overlap would occur between the construction of the parking structure and the additional demolition to occur on campus for 2024. The maximum daily construction emissions per pollutant were totaled for both projects.

Table 4.2-10
Phase 3 Estimated Maximum Daily Construction Emissions
(unmitigated)

	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
2020						
Language Arts and Social Sciences Building	200.05	11.13	11.83	0.03	2.13	0.78
Chemistry Building	1.07	10.08	10.78	0.02	1.77	0.70
Dance Building	1.11	10.65	11.35	0.02	2.07	0.76
Total of project component maximum daily emissions[a]	**200.05**	**20.73**	**22.13**	**0.04**	**3.84**	**1.46**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**YES**	No	No	No	No	No
2021						
Dance Building	59.55	8.23	8.20	0.01	0.63	0.46
Chemistry Building	81.65	8.35	8.58	0.02	0.70	0.48
Multidisciplinary Building[b]	46.57	9.78	11.40	0.02	2.12	0.73
Total of project component maximum daily emissions[a]	**141.20**	**16.58**	**16.78**	**0.03**	**2.12**	**0.94**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**YES**	No	No	No	No	No
2022						
Skill Center Renovation[b]	45.80	11.59	13.23	0.02	0.72	0.59
OCC Village[b]	3.35	32.71	35.95	0.07	8.80	5.35
Maximum daily emissions[c]	**49.15**	**44.30**	**49.18**	**0.09**	**9.52**	**5.94**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No
2023						
OCC Village[b]	55.16	15.50	20.92	0.04	1.67	0.94
Parking Structure[d]	3.50	30.89	39.85	0.09	8.64	5.21
Maximum daily emissions[c]	**58.66**	**46.39**	**60.77**	**0.13**	**10.31**	**6.15**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No
2024						
Parking Structure[d]	11.25	18.42	35.72	0.09	4.78	1.78
Additional Demolition	1.88	16.67	21.23	0.04	3.33	1.96
Total of Project Components	**13.13**	**35.09**	**56.95**	**0.13**	**8.11**	**3.74**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No

Note: See Appendix B for complete results.
lb/day = pounds per day; VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

a Project components with concurrent building construction include the Chemistry Building and the Dance Building for 2020 and 2021. Since overlap would not occur with the Language Arts and Social Sciences Building in 2020, the highest emissions for the maximum daily emissions of the

Language Arts and Social Sciences Building, or the total of the maximum daily emissions of the Chemistry Building and the Dance Building are presented. Since overlap would not occur with the Multidisciplinary Building in 2021, the highest emissions for either the maximum daily emissions of the Multidisciplinary Building, or the total of the maximum daily emissions of the Chemistry Building and the Dance Building are presented.

[b] The construction schedule of the Multidisciplinary Building, Skill Center renovation, and OCC Village are currently unknown. To provide an estimate, it is assumed that construction of the Multidisciplinary Building, Skill Center renovation, and OCC Village would occur from May 2021 to November 2021, January 2022 to May 2022, and June 2022 to August 2023, respectively.

[c] Overlap would not occur between construction of the OCC Village and the renovation of the Skill Center, or between the construction of the OCC Village and the construction of the parking structure. However, to account for possible changes in scheduling, the individual project components were totaled to provide a conservative estimate of the maximum daily emissions for each year of construction.

[d] CalEEMod treats parking structures the same as other buildings that require extensive painting; however, parking structures generally require minimal painting (e.g., striping and signage). Accordingly, VOC emissions generated during the architectural coating phase were estimated using an adjusted total floor area to better represent proposed interior and exterior application of coatings. CalEEMod methodology and defaults were applied. The alternative architectural coating emissions calculation is provided in Appendix B.

Maximum daily emissions of NO_x would occur during the grading phases for all projects as a result of off-road equipment operation and on-road haul trucks. Fugitive dust and off-road equipment emissions during the site preparation and grading phases would generate the maximum daily $PM_{2.5}$ emissions. Maximum daily PM_{10} emissions would also occur during the site preparation and grading phases. The application of architectural coatings would produce the maximum daily VOC emissions.

As shown in Table 4.2-10, maximum construction-generated VOC emissions of approximately 200 pounds per day in 2020 and 141 pounds per day in 2021 would exceed the SCAQMD's quantitative significance threshold of 75 pounds per day. Daily construction emissions would not exceed the thresholds for NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. As such, construction of the proposed project during Phase 3 would result in a potentially significant impact to air quality related to VOC emissions. Mitigation measure **MM-AQ-1** (see Section 4.2.5, Mitigation Measures) shall be incorporated during Phase 3 construction to lessen impacts related to VOC emissions. Upon implementation of mitigation measure **MM-AQ-1**, impacts related to VOC emissions would be less than significant.

As shown in Tables 4.2-8 through 4.2-10, the maximum construction-generated PM_{10} emissions of approximately 19 pounds per day, which would occur in 2018 of Phase 2, would not exceed the SCAQMD's quantitative significance threshold of 150 pounds per day. $PM_{2.5}$ maximum daily emissions of approximately 12 pounds per day, which would also occur in 2018 of Phase 2, would also be below the threshold of 55 pounds per day. Although such fugitive dust would be short term and would only last during the duration of grading activity, such PM_{10} and $PM_{2.5}$ emissions could be considered problematic since they could cause a public nuisance or further exacerbate the existing PM_{10} nonattainment situation in the South Coast Air Basin. During construction, the project would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites (as well as other fugitive dust sources) in the SCAQMD. The general requirement prohibits a person from causing or allowing emissions of fugitive dust from construction (or other fugitive dust sources) such that the presence of such dust remains visible in the atmosphere beyond the property line of the emissions source. Although impacts related to anticipated PM_{10} and $PM_{2.5}$ emission levels during construction are below the threshold and are therefore considered less than significant, Mitigation Measure MM-AQ-2 is recommended to further minimize impacts.

As discussed above, maximum construction-generated VOC emissions of approximately 132 pounds per day in 2018, 145 pounds per day in 2019, 200 pounds per day in 2020, and 141 pounds per day in 2021 would exceed the SCAQMD's quantitative significance threshold of 75 pounds per day. Daily construction emissions would not exceed the thresholds for NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. As such, construction of the proposed project during Phase 2 and Phase 3 would result in a potentially significant impact to air quality related to VOC emissions. Mitigation measure **MM-AQ-1** (see Section 4.2.5, Mitigation Measures) shall be incorporated during Phase 2 and Phase 3 construction to lessen impacts related to VOC emissions. Upon implementation of mitigation measure **MM-AQ-1**, impacts related to VOC emissions would be less than significant.

Because the proposed project would not exceed the SCAQMD construction emission thresholds for NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$, the proposed project would result in a less-than-significant-impact related to these criteria pollutant emissions.

Operational Impacts

Operation of the project would produce VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from area sources, including natural gas combustion, use of consumer products, and motor vehicle trips to project land uses. The proposed project would primarily impact air quality through vehicular traffic generated by on-campus students; off-campus students; faculty, staff, and employee; and visitors of the public/private partnership developments (i.e., office/research and development, specialty retail, and office space).

Emissions associated with existing and project-generated daily traffic were modeled using weekday trip-generation rates, which were calculated using the project traffic generation values provided in the traffic impact analysis report prepared by Linscott, Law & Greenspan (LLG 2015). CalEEMod default Saturday and Sunday trip-generation rates were adjusted based on weekday trip-generation rates per land use type, as weekend trip-generation rates were not provided in the traffic impact analysis report. CalEEMod default data for temperature, variable start information, and emission factors were conservatively used for the model inputs. Project-related traffic was assumed to consist of a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2024 emission factors were used to represent project buildout and the first full year of operation.

CalEEMod was used to estimate emissions from the project area sources, which include gasoline-powered landscape maintenance equipment, consumer products, and architectural coatings for the maintenance of buildings. The estimation of proposed operational emissions was based on proposed land use defaults and total area (i.e., square footage) of OCC buildings and facilities that would be in operation in year 2024, with a few exceptions. Default values provided by CalEEMod were changed for the VOC content of architectural coatings for maintenance. The interior non-residential architectural coating VOC content was changed to 50 g/L from the default value of 250 g/L in CalEEMod based on compliance with SCAQMD Rule 1113 and use of low-VOC flat coatings. CalEEMod also includes emissions from the operation of fireplaces and woodstoves from residential developments by default; however, it was assumed that no fireplaces or woodstoves would be installed as part of the proposed student housing project.

Emissions from energy sources, which include natural gas appliances and space and water heating, were also estimated using CalEEMod. Default values for indoor and outdoor water use, solid waste generation, and natural gas consumption (through Title 24 and non-Title 24 natural gas energy intensities) were used for the new facilities constructed as part of the proposed project. Default values for natural gas consumption through Title 24 and non-Title 24 natural gas energy intensities were adjusted to reflect historical energy use of existing facilities; see Section 4.2.2.4, Existing Emissions. In 2024, upon buildout of the proposed project, existing development and proposed development of academic, general administrative, residential, and auxiliary land uses on the OCC campus would total approximately 1,594,879 GSF; 708,320 GSF of parking structures would also be developed. A total of 10,919 parking spaces would be provided on campus.

Table 4.2-11, Orange Coast College Vision 2020 Facilities Master Plan Buildout 2024 Estimated Maximum Daily Operational Emissions, presents the maximum daily emissions associated with operation of the proposed project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix B. The estimated existing emissions in 2013, as shown in Table 4.2-4, were subtracted from the proposed project emissions, and the net change in emissions is compared with SCAQMD significance thresholds.

Table 4.2-11
Orange Coast College Vision 2020 Facilities Master Plan Buildout
2024 Estimated Maximum Daily Operational Emissions
(unmitigated)

	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Area source emissions	147.12	0.29	25.89	0.00	0.14	0.14
Energy source emissions	0.88	7.96	6.42	0.05	0.60	0.60
Mobile source emissions	95.70	178.41	978.00	3.77	270.03	74.53
Total emissions	**243.70**	**186.66**	**1,010.31**	**3.82**	**270.77**	**75.27**
Existing emissions	221.29	279.36	1,266.19	2.46	178.69	51.04

Table 4.2-11
Orange Coast College Vision 2020 Facilities Master Plan Buildout
2024 Estimated Maximum Daily Operational Emissions
(unmitigated)

	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Net change in emissions	**22.41**	**(92.70)**	**(255.88)**	**1.36**	**92.08**	**24.23**
Pollutant threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No

Note: See Appendix B for complete results.
lb/day = pounds per day; VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

As shown in Table 4.2-11, the net change in combined daily area, energy, and mobile source emissions would not exceed the SCAQMD operational thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. While the proposed project would increase the campus population (students, faculty, and staff) and the buildings relative to existing conditions, the emissions of most of the air pollutants would decrease over the next 10 years. This reduction would occur, in part, because more stringent motor vehicle emission standards would reduce total emissions as older, high-emitting vehicles are replaced with newer, cleaner vehicles. In addition, the demolition of older existing campus facilities and the addition of new, more energy-efficient buildings would also be responsible for this reduction. Other sources of emissions, such as consumer products and architectural coatings for building maintenance, would increase because the estimated emissions from these sources are a function of building area, which would increase. In addition, the net PM_{10} emissions are indicated to increase, primarily because paved road dust, which is a function of total vehicle-miles traveled, would not be affected by motor vehicle emission standards and other factors that tend to reduce the project emissions over time.

Because the proposed project would not exceed the SCAQMD operational thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$, the proposed project would result in a less than significant impact on air quality.

Would the project result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors)?

See Section 4.2.7, Cumulative Impacts, for a discussion of this threshold.

Would the project expose sensitive receptors to substantial pollutant concentrations?

Localized Significance Thresholds

Sensitive receptors include but are not limited to residential land uses, schools, open space and parks, recreational facilities, hospitals, resident care facilities, daycare facilities, or other facilities that may house individuals with health conditions that would be affected by poor air quality. The nearest off-site sensitive receptors to the OCC campus are the residents located along the southern, western, and northern boundaries and Costa Mesa High School located along the eastern boundary of the campus.

Construction activities associated with the proposed project would result in temporary sources of fugitive dust and construction vehicle emissions. Long-term operation of the proposed project would result in daily vehicular trips that would generate local emissions that could expose sensitive receptors to substantial pollutant concentrations.

As indicated in the discussion of the thresholds of significance, the SCAQMD also recommends the evaluation of localized NO_2, CO, PM_{10}, and $PM_{2.5}$ impacts as a result of construction activities to sensitive receptors in the immediate vicinity of the project site. The closest off-site existing sensitive receptors (residences) are located within 50 feet of the proposed student housing project site. Additionally, residences are located within 180 and 420 feet of the proposed Recycling Center Expansion and Skill Center renovation, respectively. Costa Mesa High School is within 230 feet of the proposed Student Union.

The closest off-site existing sensitive receptors to construction of proposed project buildings and facilities are residences located 50 feet west of the proposed student housing project site that would be constructed during Phase 2. For the purposes of the LST analysis, it is assumed that the student housing project would be 2 acres in area[5] and the sensitive receptors would be located within a 25-meter (82-foot) distance from construction activity. Estimated maximum on-site emissions generated during construction of the student housing project were used.

The impacts were analyzed using methods consistent with those in the SCAQMD's LST Methodology (SCAQMD 2008). The allowable emission rates for Source–Receptor Area 18 (North Coastal Orange County) from the SCAQMD LST Methodology lookup tables are shown in Table 4.2-12, Student Housing Project LST Analysis for Construction Emissions, and compared to the maximum daily on-site construction emissions of these pollutants during the Phase 2 construction.

5 While the actual construction area may be larger than 2 acres, using the smaller area results in a more conservative analysis because the LSTs for a 2-acre site are lower than those for a 5-acre site.

Table 4.2-12
Student Housing Project
LST Analysis for Construction Emissions

Pollutant	Maximum Construction Emissions (lb/day)[a]	LST Criteria (lb/day)	Exceeds LST?
NO_2	29	131	No
CO	21	962	No
PM_{10}	6	7	No
$PM_{2.5}$	3	5	No

Source: SCAQMD 2008.
Note: These estimates reflect control of fugitive dust required by Rule 403.
LST = localized significance threshold; lb/day = pounds per day; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
[a] See Appendix B for complete results. Construction emissions estimates rounded to nearest pound.

The proposed Student Union site would be located 230 feet west of Costa Mesa High School. For the purposes of the LST analysis, it is assumed that the Administration Building and Student Union site would be 2 acres in area and the sensitive receptors would be located within a 50-meter (164-foot) distance from construction activity. Estimated maximum on-site emissions generated during Phase 2 construction, which includes construction of the Student Union site, were used.

Table 4.2-13
Student Union
LST Analysis for Construction Emissions

Pollutant	Maximum Construction Emissions[a] (lb/day)	LST Criteria (lb/day)	Exceeds LST?
NO_2	46	128	No
CO	36	1,089	No
PM_{10}	9	21	No
$PM_{2.5}$	6	7	No

Source: SCAQMD 2008.
Note: These estimates reflect control of fugitive dust required by Rule 403.
LST = localized significance threshold; lb/day = pounds per day; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
[a] See Appendix B for complete results. Construction emissions estimates rounded to nearest pound.

The proposed Recycling Center Expansion site would be located 180 feet south of nearby residences. For the purposes of the LST analysis, it is assumed that the Recycling Center Expansion site would be 2 acres in area and the sensitive receptors would be located within a 100-meter (328-foot) distance of construction activity. Estimated maximum on-site emissions generated during Phase 1 construction, which includes the Recycling Center Expansion, were used.

Table 4.2-14
Recycling Center Expansion
LST Analysis for Construction Emissions

Pollutant	Maximum Construction Emissions[a] (lb/day)	LST Criteria (lb/day)	Exceeds LST?
NO_2	57	139	No
CO	43	1,506	No
Respirable Particulate Matter (PM_{10})	10	35	No
Fine Particulate Matter ($PM_{2.5}$)	7	12	No

Source: SCAQMD 2008.
Note: These estimates reflect control of fugitive dust required by Rule 403.
LST = localized significance threshold; lb/day = pounds per day; NO2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
[a] See Appendix B for complete results. Construction emissions estimates rounded to nearest pound.

The proposed Skill Center renovation site would be located 420 feet east of nearby residences. For the purposes of the localized significance thresholds (LST) analysis, it is assumed that the Skill Center renovation site would be 1 acre in area and the sensitive receptors would be located within a 100-meter (328-foot) distance from construction activity. Estimated maximum on-site emissions generated during construction of Phase 3, which includes the Skill Center renovation, were used.

Table 4.2-15
Skill Center Renovation
Localized Significance Thresholds Analysis for Construction Emissions

Pollutant	Maximum Construction Emissions[a] (lb/day)	LST Criteria (lb/day)	Exceeds LST?
NO_2	11	108	No
CO	13	1,090	No
PM_{10}	1	27	No
$PM_{2.5}$	1	9	No

Source: SCAQMD 2008.
Note: These estimates reflect control of fugitive dust required by Rule 403.
LST = localized significance threshold; lb/day = pounds per day; NO2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
[a] See Appendix B for complete results. Construction emissions estimates rounded to nearest pound.

As shown in Tables 4.2-12 through 4.2-15, construction activities would not generate emissions in excess of site-specific LSTs during the respective construction phases, and impacts to sensitive receptors in the vicinity of the project site would be less than significant.

Carbon Monoxide Hotspots

Mobile source impacts occur on two scales of motion. Regionally, project-related travel will add to regional trip generation and increase the vehicle-miles traveled within the local airshed and the South Coast Air Basin. Locally, project traffic will be added to the City of Costa Mesa roadway system near the OCC campus. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the basin is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the proposed project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. The traffic impact analysis report and Section 4.12, Traffic and Circulation, evaluated whether there would be a decrease in the level of service (LOS) (e.g., congestion) at the intersections affected by the project. The potential for CO hotspots was evaluated based on the results of the traffic impact analysis. The California Department of Transportation (Caltrans) Institute of Transportation Studies *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (Caltrans 1997) was followed.

In accordance with the CO Protocol, CO hotspots are typically evaluated when (1) the LOS of an intersection or roadway decreases to a LOS E or worse, (2) signalization and/or channelization is added to an intersection, and (3) sensitive receptors such as residences, schools, and hospitals are located in the vicinity of the affected intersection or roadway segment. In general, the SCAQMD recommends that a quantitative CO hotspots analysis be performed for any intersections where the LOS worsens from C to D or for intersections that experience an increase in volume-to-capacity ratio of 2% or more as a result of a proposed project for intersections rated D or worse.

The traffic impact analysis report evaluated 35 key intersections in the project vicinity to assess existing conditions, year 2024 cumulative traffic conditions, and year 2024 cumulative plus project traffic conditions. Table 4.2-16, Year 2024 Peak Hour Intersection Capacity Analysis, summarizes the existing traffic conditions, year 2024 cumulative traffic conditions, year 2024 cumulative plus project traffic conditions, and whether a CO hotspot analysis is required per the CO Protocol and SCAQMD recommendations.

Table 4.2-16
Year 2024 Peak Hour Intersection Capacity Analysis

	Key Intersection	Time Period	Existing Traffic Conditions		Year 2024 Cumulative Traffic Conditions		Year 2024 Cumulative Plus Project Traffic Conditions		Requires a CO Hotspot Analysis?
			ICU/HCM	*LOS*	*ICU/HCM*	*LOS*	*ICU/HCM*	*LOS*	*Yes/No*
1.	Harbor Boulevard at Gisler Avenue	AM PM	0.572 0.717	A C	0.637 0.804	B D	0.660 0.824	B D	YES
2.	Harbor Boulevard at Baker Street	AM PM	0.473 0.657	A B	0.533 0.738	A C	0.539 0.758	A C	No
3.	Harbor Boulevard at Adams Avenue[a]	AM PM	0.665 0.746	B C	0.749 0.836	C D	0.809 0.895	D D	YES
4.	Harbor Boulevard at Merrimac Way	AM PM	0.368 0.623	A B	0.418 0.698	A B	0.468 0.757	A C	No
5.	Harbor Boulevard at Fair Drive	AM PM	0.356 0.546	A A	0.404 0.612	A B	0.414 0.620	A B	No
6.	Pinecreek Drive/S Street at Adams Avenue	AM PM	0.369 0.623	A B	0.405 0.681	A B	0.494 0.770	A C	No
7.	Fairview Road at I-405 NB Ramps	AM PM	0.658 0.688	B B	0.730 0.763	C C	0.751 0.803	C D	YES
8.	Fairview Road at I-405 SB Ramps	AM PM	0.611 0.545	B A	0.678 0.607	B B	0.720 0.643	C B	No
9.	Fairview Road at Baker Street	AM PM	0.588 0.586	A A	0.658 0.657	B B	0.667 0.732	B C	No
10.	Fairview Road at Adams Avenue/El Camino Drive	AM PM	0.670 0.654	B B	0.744 0.727	C C	0.812 0.822	D D	YES
11.	Fairview Road at Monitor Way	AM PM	0.342 0.460	A A	0.374 0.500	A A	0.460 0.578	A A	No
12.	Fairview Road at Pirate Way/Mustang Way	AM PM	0.399 0.401	A A	0.439 0.433	A A	0.485 0.492	A A	No
13.	Fairview Road at Arlington Drive	AM PM	0.287 0.422	A A	0.319 0.465	A A	0.363 0.559	A B	No
14.	Fairview Road at Merrimac Way	AM PM	0.236 0.295	A A	0.264 0.329	A A	0.296 0.384	A A	No
15.	Fairview Road at Fair Drive	AM PM	0.401 0.519	A A	0.446 0.577	A A	0.487 0.627	A B	No
16.	Lot C Driveway at Merrimac Way	AM PM	10.4 s/v 12.6 s/v	B B	10.7 s/v 13.3 s/v	B B	12.4 s/v 19.26 s/v	B C	No
17.	Lot D Driveway at Merrimac Way	AM PM	12.1 s/v 13.3 s/v	B B	12.6 s/v 14.1 s/v	B B	13.6 s/v 16.3 s/v	B C	No
18.	Lot D Driveway (Right-In/Out Only) at Merrimac Way	AM PM	9.5 s/v 10.0 s/v	A A	9.6 s/v 10.2 s/v	A B	9.7 s/v 10.6 s/v	A B	No
19.	Lot D Driveway (Right-In/Out Only) at Merrimac Way	AM PM	9.5 s/v 10.1 s/v	A B	9.6 s/v 10.3 s/v	A B	9.7 s/v 10.8 s/v	A B	No
20.	Lot E Driveway at Merrimac Way	AM PM	11.2 s/v 13.2 s/v	B B	11.5 s/v 14.0 s/v	B B	12.9 s/v 16.3 s/v	B C	No

Table 4.2-16
Year 2024 Peak Hour Intersection Capacity Analysis

Key Intersection		Time Period	Existing Traffic Conditions		Year 2024 Cumulative Traffic Conditions		Year 2024 Cumulative Plus Project Traffic Conditions		Requires a CO Hotspot Analysis?
			ICU/HCM	*LOS*	*ICU/HCM*	*LOS*	*ICU/HCM*	*LOS*	*Yes/No*
21.	Lot E Driveway (Right-In/Out Only) at Merrimac Way	AM PM	8.9 s/v 9.8 s/v	A A	8.9 s/v 10.0 s/v	A A	9.1 s/v 10.4 s/v	A B	No
22.	Lot E Driveway/Church Driveway at Merrimac Way	AM PM	8.7 s/v 13.9 s/v	A B	8.7 s/v 14.5 s/v	A B	10.2 s/v 17.5 s/v	B C	No
23.	Lot E Driveway (Right-In/Out Only) at Merrimac Way	AM PM	8.7 s/v 9.7 s/v	A A	8.7 s/v 9.8 s/v	A A	8.8 s/v 10.3 s/v	A B	No
24.	Recycling Center Driveway No. 1 at Adams Avenue	AM PM	0.0 s/v 0.0 s/v	A A	0.0 s/v 0.0 s/v	A A	0.0 s/v 0.0 s/v	A A	No
25.	Recycling Center Driveway No. 2 at Adams Avenue	AM PM	12.0 s/v 10.6 s/v	B B	12.6 s/v 10.9 s/v	B B	13.0 s/v 12.3 s/v	B B	No
26.	Mesa Verde Drive/Placentia Avenue at Adams Avenue	AM PM	0.739 0.743	C C	0.807 0.811	D D	0.832 0.828	D D	YES
27.	Harbor Boulevard at South Coast Drive	AM PM	0.465 0.669	A B	0.507 0.732	A C	0.515 0.738	A C	No
28.	Harbor Boulevard at I-405 NB Ramps	AM PM	0.460 0.597	A A	0.502 0.654	A B	0.511 0.661	A B	No
29.	Harbor Boulevard at I-405 SB Ramps	AM PM	0.427 0.606	A B	0.468 0.672	A B	0.497 0.704	A C	No
30.	Harbor Boulevard at Victoria Street	AM PM	0.679 0.814	B D	0.745 0.898	C D	0.746 **0.907**	C **E**	YES
31.	Fairview Road at South Coast Drive	AM PM	0.702 0.683	C B	0.767 0.746	C C	0.770 0.758	C C	No
32.	Bear Street at Baker Street	AM PM	0.563 0.688	A B	0.617 0.755	B C	0.618 0.763	B C	No
33.	Newport Boulevard/SR-55 SB Ramps at Fair Drive	AM PM	0.351 0.481	A A	0.382 0.524	A A	0.385 0.536	A A	No
34.	Newport Boulevard/SR-55 NB Ramps at Fair Drive/Del Mar Avenue	AM PM	0.813 0.469	D A	0.886 0.512	D A	0.894 0.533	D A	YES
35.	Project Driveway (near proposed student housing component) at Adams Avenue	AM PM	--- ---	--- ---	--- ---	--- ---	18.1 s/v 12.7 s/v	C B	No

Notes: CO = carbon monoxide; ICU/HCM = Intersection Capacity Utilization/Highway Capacity Manual; LOS = level of service; I-405 = Interstate 405; SB = southbound; NB = northbound; s/v = seconds per vehicle

A total of seven intersections would deteriorate from LOS C to D or would experience an increase in the volume-to-capacity ratio of 2% or more as a result of a proposed project for intersections rated D or worse under year 2024 cumulative plus project traffic conditions, which would require a CO hotspot analysis per SCAQMD recommendations:

- Harbor Boulevard at Gisler Avenue
- Harbor Boulevard at Adams Avenue
- Fairview Road at I-405 Northbound Ramps
- Fairview Road at Adams Avenue/El Camino Drive
- Mesa Verde Drive/Placentia Avenue at Adams Avenue
- Harbor Boulevard at Victoria Street
- Newport Boulevard/State Route 55 Northbound Ramps at Fair Drive/Del Mar Avenue

According to the CO Protocol, there is a cap on the number of intersections that need to be analyzed for any one project. For a single project with multiple intersections, only the three intersections representing the worst LOS ratings of the project, and, to the extent they are different intersections, the three intersections representing the highest traffic volumes need be analyzed. For each intersection failing a screening test as described in this protocol, an additional intersection should be analyzed (Caltrans 1997). Therefore, the following three intersections with the highest anticipated traffic volumes were evaluated:

- Harbor Boulevard at Adams Avenue (PM peak hour)
- Harbor Boulevard at Victoria Street (PM peak hour)
- Newport Boulevard/State Route 55 Northbound Ramps at Fair Drive/Del Mar Avenue (AM peak hour)

The potential impact of the proposed project on local CO levels was assessed at these intersections with the Caltrans CL4 interface, based on the California LINE Source Dispersion Model (CALINE4), which allows microscale CO concentrations to be estimated along each roadway corridor or near intersections (Caltrans 1998a).

The modeling analysis was performed for worst-case wind angle, in which the model selects the wind angles that produce the highest CO concentrations at each of the receptors. The suburban land classification of 100 centimeters (40 inches) was used for the aerodynamic roughness coefficient, which determines the amount of local air turbulence that affects plume spreading. The at-grade option was used for certain roadway sections in the analysis; for at-grade sections, CALINE4 does not permit the plume to mix below ground level. The bridge option was also used. For bridge sections, CALINE4 allows air to flow above and below the link. The mixing zone, which is defined as the width of the roadway plus 3 meters (10 feet) on either side, was estimated for each roadway using Google Earth (2015). The calculations assume a mixing height of 10 meters (33 feet), a flat topographical condition between the source and the receptor (link height of 0 meters), and a meteorological condition of little to almost no wind (1.0 meters (3.3 feet) per second), consistent with Caltrans guidance (Caltrans 1998b)

The emission factor represents the weighted average emission rate of the local Orange County vehicle fleet expressed in grams per mile per vehicle. Consistent with the traffic impact analysis report, emission factors for 2024, representing the year 2024 cumulative plus project traffic conditions, were predicted by EMFAC2014 and were used in the CALINE4 model. Emission factors were based on a 5 mile per hour (mph) average speed for all of the intersections and a temperature of 40°F[6]. The hourly traffic volume anticipated to travel on each link, in units of vehicles per hour, was based on the traffic impact analysis report (Appendix G; LLG 2015). Since project-generated traffic would have the highest impact to the Harbor Boulevard at Adams Avenue and the Harbor Boulevard at Victoria Street intersections in the PM peak hour, vehicle counts for the PM peak hour were used. Since project-generated traffic would have the highest impact to the Newport Boulevard/State Route 55 Northbound Ramps at Fair Drive/Del Mar Avenue intersection in the AM hour, vehicle counts for the AM peak hour were used.

Four receptor locations at each intersection were modeled to determine CO ambient concentrations. A receptor was assumed on the sidewalk at each corner of the modeled intersections, for a total of four receptors adjacent to the intersection, to represent the possibility of extended outdoor exposure. CO concentrations were modeled at these locations to assess the maximum potential CO exposure that could occur in 2024. A receptor height of 1.8 meters (5.9 feet) was used in accordance with Caltrans recommendations for all receptor locations (Caltrans 1998b).

The maximum 1-hour CO background concentration of 2.9 ppm, as measured in 2011 (see Table 4.2-3), was assumed in the CALINE4 model. The model provides predicted concentrations in parts per million at each of the receptor locations. To estimate an 8-hour average CO concentration, a persistence factor of 0.7, as is recommended for urban locations, was applied to the output values.

The results of the model are shown in Table 4.2-17, CALINE4 Predicted CO Concentrations. Model input and output data are contained in Appendix B.

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6 December is usually the coldest month of the year in Tustin, with an average minimum temperature of 43°F (NOAA n.d.). Assuming a 5-degree correction factor for PM traffic conditions, average evening temperature would be approximately 48°F. However, as these meteorological readings are for the Marine Corps Air Station in Tustin, and as CO concentrations generally increase with a decrease in temperature, a temperature of 40°F (4.4°C) was conservatively used to determine the emission factors in EMFAC and CO concentrations in CALINE4.

Table 4.2-17
CALINE4 Predicted CO Concentrations

Intersection	Maximum Modeled Impact Year 2024 Cumulative Plus Project Conditions (ppm)	
	1-hour	*8-hour[a]*
Harbor Boulevard and Adams Avenue	3.4	2.4
Harbor Boulevard and Victoria Street	3.3	2.3
Newport Boulevard/SR-55 NB Ramps at Fair Drive/Del Mar Avenue	3.2	2.2

Source: Caltrans 1998a (CALINE4).
CO = carbon monoxide; ppm = parts per million; SR-55 = State Route 55, NB = Northbound
[a] 8-hour concentrations were obtained by multiplying the 1-hour concentration by a factor of 0.7, as referenced in Caltrans 1997, Table B.15.

As shown in Table 4.2-17, maximum CO concentrations predicted for the 1-hour averaging period would be 3.4 ppm, which is below the state 1-hour CO standard of 20 ppm (see Table 4.2-3 for state standards). Maximum predicted 8-hour CO concentrations of 2.4 ppm would be below the state CO standard of 9.0 ppm. Neither the 1-hour nor 8-hour state standard would be equaled or exceeded at any of the intersections studied. Accordingly, impacts would be less than significant.

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

Construction of the proposed project would result in the emission of diesel fumes and other odors typically associated with construction activities. These compounds would be emitted in varying amounts on campus, depending on where construction activities were occurring. Sensitive receptors located in the vicinity of the construction site(s), including residences that house children, open space areas, or schools, may be affected. Furthermore, SCAQMD rules restrict the VOC content (the source of odor-causing compounds) in paints. Construction of the proposed project would use typical construction techniques in compliance with SCAQMD rules. Odors are highest near the source and would quickly dissipate off site. Any odors associated with construction activities would be temporary and would cease upon completion of construction.

Land uses and industrial operations that typically are associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Accordingly, it is not anticipated that any operational sources under the proposed project would result in objectionable odors, and therefore, impacts are less than significant.

4.2.5 Mitigation Measures

Mitigation measures required to reduce potentially significant air quality impacts during construction of the proposed project include the following:

MM-AQ-1 The following measures shall be adhered to during the architectural coating phases of project construction to reduce volatile organic compound (VOCs) emissions from activities during Phases 2 and 3:

a) The Coast Community College District (District) shall procure architectural coatings from a supplier in compliance with the requirements of South Coast Air Quality Management District (SCAQMD) Rule 1113 (Architectural Coatings).

b) The architectural coating phase of the student housing Project shall occur over a 35-day duration, or the coating application rate should be limited to 23,420 square feet a day.

c) The architectural coating phase of the Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office shall occur over a 20-day duration, or the coating application rate should be limited to 9,990 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter.

d) The architectural coating phase of the Student Union shall occur over a 30-day duration, or the coating application rate should be limited to 12,650 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter.

e) The architectural coating phase of the Language Arts Building shall occur over a 10-day duration, or the coating application rate should be limited to 21,550 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter.

f) The architectural coating phase of the Dance Building shall occur over a 10-day duration, or the coating application rate should be limited to 6,400 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter.

g) The architectural coating phase of the Chemistry Building shall occur over a 10-day duration, or the coating application rate should be limited to 8,780 square feet a day. The maximum VOC content of exterior coatings shall be limited to 100 grams per liter.

MM-AQ-2 Consistent with SCAQMD Rule 403, it is required that fugitive dust generated by grading and construction activities be kept to a minimum, with a goal of retaining dust on the site, by following the dust control measures listed as follows:

a) During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease.

b) During construction, water truck or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas later in the morning, after work is completed for the day, and whenever winds exceed 15 miles per hour (mph).

c) Soil stockpiled for more than 2 days shall be covered, kept moist, or treated with soil binders to prevent dust generation.

d) Speeds on unpaved roads shall be reduced to less than 15 mph.

e) All grading and excavation operations shall be halted when wind speeds exceed 25 mph.

f) Dirt and debris spilled onto paved surfaces at the project site and on the adjacent roadways shall be swept, vacuumed, and/or washed at the end of each workday.

g) Should minor import/export of soil materials be required, all trucks hauling dirt, sand, soil, or other loose material to and from the construction site shall be tarped and maintain a minimum 2 feet of freeboard.

h) At a minimum, at each vehicle egress from the project site to a paved public road, a pad shall be installed consisting of washed gravel (minimum size: 1 inch) maintained in a clean condition to a depth of at least 6 inches and extending to a width of at least 30 feet and a length of at least 50 feet (or as otherwise directed by SCAQMD) to reduce trackout and carryout onto public roads.

i) Review and comply with any additional requirements of SCAQMD Rule 403.

4.2.6 Level of Significance after Mitigation

The analysis above and as presented in Appendix B concludes that the daily construction emissions would not exceed the SCAQMD's significance thresholds for NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in any of the construction phases. The proposed project, however, would exceed daily construction emissions thresholds for VOCs. However, upon implementation of MM-AQ-1, impacts would be less than significant. Table 4.2-18 presents emissions upon implementation of MM-AQ-1.

Table 4.2-18
Estimated Maximum Daily Construction Emissions
(mitigated)

	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Phase 2						
2018						
Student housing project	68.30	23.82	28.63	0.06	3.95	1.95
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No
2019						
Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office	29.25	22.84	22.16	0.04	2.16	1.46
Student Union	36.97	23.39	23.62	0.04	2.41	1.54
Total of project component maximum daily emissions[b]	**66.22**	**46.23**	**45.78**	**0.08**	**4.57**	**3.00**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No
Phase 3						
2020						
Language Arts and Social Sciences Building	62.70	11.13	11.83	0.03	2.13	0.78
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No
2021						
Dance Building	18.77	8.23	8.20	0.01	0.63	0.46
Chemistry Building	25.67	8.35	8.56	0.02	0.70	0.48
Total of project component maximum daily emissions[a]	**44.44**	**16.58**	**16.76**	**0.03**	**1.33**	**0.94**
Pollutant threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	No	No	No	No	No	No

As shown in Table 4.2-18, daily construction emissions would not exceed the thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during Phase 2 and Phase 3 construction upon implementation of MM-AQ-1; and impacts would be less than significant.

Mitigation measure MM-AQ-2, described in Section 4.2.5, would further minimize less-than-significant impacts associated with fugitive dust generation.

4.2.7 Cumulative Impacts

Development of the proposed project, combined with known and reasonably foreseeable growth in the area, could result in cumulatively considerable emissions of nonattainment criteria air pollutants.

In analyzing cumulative impacts from the proposed project, the assessment must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the South Coast Air Basin is designated as nonattainment for the federal or state standards. Implementation of the proposed project would generate short-term air pollutant emissions during construction and long-term operational emissions associated with vehicle traffic to and from the campus as well as energy use of buildings and facilities.

Cumulative localized impacts could occur if the construction of a project component were to occur concurrently with another off-campus project. Construction under the proposed project would occur in multiple phases over 10 years throughout the OCC campus. Construction schedules for potential future projects near the OCC campus are currently unknown; therefore, potential construction impacts associated with two simultaneous projects are speculative. The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). This analysis is nonetheless provided in an effort to show good faith analysis and comply with CEQA's information disclosure requirements.

Air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD. The maximum daily PM_{10} and $PM_{2.5}$ emissions would not exceed the significance thresholds during proposed project construction activities, although fugitive dust, as well as vehicle and equipment exhaust, generated during project construction would contribute to the basin's nonattainment designation for PM_{10} and $PM_{2.5}$; however, this contribution would not be considered cumulatively considerable.

With regard to operational cumulative impacts associated with nonattainment pollutants, in general, if a project is consistent with the community and general plans, it has been accounted for in the attainment demonstration contained within the state implementation plan and would, therefore, not cause a cumulatively significant impact on the ambient air quality. As discussed in Section 4.2.4, the proposed project would result in population growth that is consistent with the growth projections anticipated in the SCAQMD's 2012 AQMP. Accordingly, the proposed project would not result in a cumulatively considerable contribution to the nonattainment pollutants in the basin, and this impact would be less than significant.

4.2.8 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

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4.3 BIOLOGICAL RESOURCES

This section describes the existing biological resources on the Orange Coast College (OCC) campus, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed OCC Vision 2020 Facilities Master Plan (proposed project). This section focuses on potentially adverse impacts to candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS), resulting from implementation of the proposed project. Information in this section is based on a number of sources, including a Biological Resources Letter Report (Dudek 2015) included in Appendix C.

4.3.1 Existing Conditions

The OCC campus is located in the City of Costa Mesa in Central Orange County, California. Surrounding cities include Santa Ana to the north, Irvine to the east, Newport Beach to the south, and Fountain Valley and Huntington Beach to the west. Based on recommendations provided by the Vision 2020 Facilities Master Plan and an analysis of the evolving student body, the proposed project consists of renovations to existing buildings, including the Skill Center and Norman E. Watson Hall. The proposed project also consists of construction of new facilities including a Language Arts and Social Sciences Building; Chemistry Building; Dance Building; Multidisciplinary Building; Student Union/Bookstore/Culinary Arts/Student Success Center; Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office; student housing (818 beds); and the addition of a parking structure in the Adams Avenue lot. The proposed project would involve the implementation of various parking, vehicular, and pedestrian circulation improvements. Additionally, the Coast Community College District (District) is proposing to increase entrepreneurial activities and attract visitors to the campus through the development of new facilities and the improvement of programs in place, including the expansion and reconfiguration of the existing recycling center to accommodate increasing public utilization and alleviate traffic congestion; construction of the OCC Village, a mixed-use development including retail, conference, education, and office space on the corner of Merrimac Way and Fairview Road; and construction of a new Planetarium. The project study area includes the existing 160-acre college campus (south of Adams Avenue and north of Merrimac Way). The project study area is defined as an approximately 160-acre area and a surrounding 150-foot buffer around the project area.

Topography on site is generally flat with elevations ranging from 50 feet above mean sea level (amsl) along the football field adjacent to the north-central end of the OCC campus to 70 feet amsl along the southern portion of the study area just north of Merrimac Way. According to the U.S. Department of Agriculture Natural Resources Conservation Service, three soil types from two soil series are mapped within the project study area: Cropley clay 2%–9% slopes, Myford sandy loam, thick surface, 0%–2% slopes, and Myford sandy loam, 2%–9% slopes (USDA NRCS 2013). The majority of the project contains Cropley clay 2%–9% slopes soils. Myford sandy loam, thick surface, 0%–2% slopes, makes up the northernmost portion of the project. Only a small occurrence of Myford sandy loam, 2%–9% slopes, exists along the northwestern portion of the study area. Data regarding biological and jurisdictional resources present within the study area were obtained through a review of pertinent literature and field reconnaissance.

4.3.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Endangered Species Act

The federal Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 et seq.), provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed animal species. The ESA also prohibits all persons subject to U.S. jurisdiction from "taking" endangered species, which includes any harm or harassment. Section 7 of the ESA requires that federal agencies, prior to project approval, consult the USFWS and/or the National Marine Fisheries Service to ensure adequate protection of listed species that may be affected by the project.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The list of bird species covered by the MBTA is extensive and is detailed in 50 CFR 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species, including any part, egg, or nest of such a bird (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened birds under the ESA. The MBTA, which is enforced by the USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

Clean Water Act

The federal Water Pollution Control Act Amendments of 1972 (Clean Water Act; 33 U.S.C. 1251 et seq.), as amended by the Water Quality Act of 1987 (PL 1000-4), is the major federal legislation governing water quality. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into waters of the United States are regulated under Section 404. Waters of the United States include (1) all navigable waters (including all waters subject to the ebb and flow of tides); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, or natural ponds; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above. In California, the State Water Resources Control Board and the nine Regional Water Quality Control Boards (RWQCBs) are responsible for implementing the Clean Water Act. Important applicable sections of the Clean Water Act are discussed below:

- **Section 303** requires states to develop water quality standards for inland surface and ocean waters and submit to the U.S. Environmental Protection Agency for approval. Under Section 303(d), the state is required to list waters that do not meet water quality standards and to develop action plans, called total maximum daily loads, to improve water quality.
- **Section 304** provides for water quality standards, criteria, and guidelines.
- **Section 401** requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the Clean Water Act. Certification is provided by the respective RWQCB.
- **Section 402** establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. The NPDES program is administered by the RWQCB. Conformance with Section 402 is typically addressed in conjunction with water quality certification under Section 401.
- **Section 404** provides for issuance of dredge/fill permits by the U.S. Army Corps of Engineers (ACOE). Permits typically include conditions to minimize impacts on water quality. Common conditions include (1) ACOE review and approval of sediment quality analysis before dredging, (2) a detailed pre- and post-construction monitoring plan that includes disposal site monitoring, and (3) required compensation for loss of waters of the United States.

U.S. Army Corps of Engineers

The ACOE has primary federal responsibility for administering regulations that concern waters and wetlands in the project area. In this regard, the ACOE acts under two statutory authorities, the Rivers and Harbors Act (33 U.S.C., Sections 9 and 10), which governs specified activities in navigable waters, and the Clean Water Act (Section 404), which governs specified activities in waters of the United States, including wetlands and special aquatic sites. Wetlands and non-wetland waters (e.g., rivers, streams, and natural ponds) are a subset of waters of the United States and receive protection under Section 404 of the Clean Water Act. The ACOE has primary federal responsibility for administering regulations that concern waters and wetlands in the project area under statutory authority of the Clean Water Act (Section 404). In addition, the regulations and policies of various federal agencies mandate that the filling of wetlands be avoided to the extent feasible. The ACOE requires a permit if a project proposes placing structures within navigable waters and/or altering waters of the United States.

State

California Endangered Species Act

Similar to the federal ESA, the California ESA of 1970 provides protection to species considered threatened or endangered by the State of California (California Fish and Game Code, Section 2050 et seq.). The California ESA recognizes the importance of threatened and endangered fish, wildlife, and plant species and their habitats, and prohibits the taking of any endangered, threatened, or rare plant and/or animal species unless specifically permitted for education or management purposes.

California Fish and Game Code

The California Fish and Game Code regulates the handling and management of the state's fish and wildlife. Most of the code is administered or enforced by the California Department of Fish and Wildlife (CDFW; prior to September 2012, California Department of Fish and Game (CDFG)). One section of the code generally applies to public infrastructure projects such as the proposed project:

- **Section 1602** regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources.

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act of 1969, updated in 2012 (California Water Code, Section 13000 et seq.), provides for statewide coordination of water quality regulations. The act established the California State Water Resources Control Board as the statewide authority, and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis.

Local

City of Costa Mesa General Plan

The City of Costa Mesa General Plan Conservation Element (City of Costa Mesa 2000) establishes the official policy relative to the identification, establishment, preservation, and management of natural resources in the City of Costa Mesa. The element states that a majority of valuable biological resources are located in areas free from large-scale development intrusion. Areas such as these are found in western Costa Mesa near the Santa Ana River. Additionally, the agricultural fields in northern Costa Mesa support a unique animal community related to field crop production. The Conservation Element contains goals, objectives, and policies that affirm the city's commitment to conservation of biological resources. The following goal, objective, and policy affirm the city's commitment to resource conservation and are relevant to the proposed project:

- **Goal CON-1:** It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the conservation of resources, including land, water, wildlife, and vegetation; the protection of areas of unique natural beauty; the integration of natural features into the man-made environment.
    - **Objective CON-1A:** Evaluate the preservation of the City's existing biotic resources in as ecologically viable and natural a condition as possible, and, where feasible, restore and integrate these resources into the urban environment.
        - **CON-1A.1:** Ensure that all future development will be adequately reviewed with regard to possible adverse effects on plant and animal life and critical wildlife habitat and wetlands, and incorporate feasible mitigation measures into the project design to reduce such effects (City of Costa Mesa 2000, CON-44).

City of Costa Mesa Municipal Code

Section 15-126. *Permit required*: No person shall install, replace, or alter any tree located within city medians, parkways, or tree easements without first obtaining a permit.

Section 15-130. *Street trees required*: All tree species for placement in the public right-of-way shall comply with the street tree master plan within the streetscape and median design guidelines.

Section 15-131. *3:1 tree replacement ratio*: The adjacent property owner/applicant shall pay for tree replacement costs on a 3:1 tree replacement ratio of (three (3) new trees planted for every one (1) mature tree removed one (1) twenty-four-inch box, and two (2) fifteen-gallon trees) whenever such a removal is deemed a "convenience removal." Property owner/applicant agrees that the city shall select the species and approve the site of the tree to be replanted.

"Convenience removal" shall mean the removal of a tree with a genus and species designated as a problem tree by the Department of Public Services to include, but is not limited to, *Ficus nitida*, *Ficus retusa*, *Fraxinus uhdei*, *Schinus terebinthifolius*, *Cupania anacardioides*, and that such removal is subject to a convenience tree removal agreement approved by the department.

Section 15-132. *Protection of trees during construction*: No person shall begin any construction or excavation without first providing sufficient protection for trees on public property, such as a fence, guard or frame within a five-foot minimum distance of the tree trunk. This five-foot minimum may be extended at the sole discretion of the director of public services for other unforeseen horticultural circumstances.

Section 15-138. *Preservation of landmark trees*:

(1) *Intent and purpose.* It is the intent of this chapter to establish regulations for the voluntary nomination for the preservation of landmark trees within the city, and to encourage property owners to retain as many of their own trees as possible, consistent with the purpose hereof. It is not the intent of this chapter to prevent the use of private property for the normal purposes allowed in the zoning ordinances, consistent with this chapter.

(2) *Landmark tree standards.* The tree or trees shall have one or more of the following criteria in order to be eligible to be placed on a landmark tree list:

1. A tree or stand of trees which is of historical significance;
2. A tree or stand of trees which is of a rare species and is unusual because of size, color, and blossoms;
3. A tree or stand of trees which has unique characteristics of form or shape that contribute to the community skyline;
4. A tree or stand of trees which are intended to become of future visual, cultural and/or historical significance.

(3) *Recognition of landmark trees.* The tree or stand of trees shall be documented with photographs, horticultural information and location. The photograph and location will be displayed within city hall.

(4) *Procedure for establishment of a landmark tree list.* A list of landmark trees will be established by the city council by resolution, which may be amended from time to time. Any property owner of Costa Mesa desiring to have his tree or trees placed on the

landmark tree list may voluntarily apply to the parks, recreation facilities and parkways commission for inclusion of the tree or trees on the list. The commission by a majority vote, or the city council on appeal, may determine that the applicants' tree or trees be placed on, or removed from, the landmark tree list. Placement of a tree or stand of trees on the landmark tree list shall require a majority vote of city council.

The parks, recreation facilities and parkways commission, or the city council on appeal, may reverse or modify its previous decisions to place or remove any tree on the landmark tree list.

(5) *Appeals.* Any decision of the parks, recreation facilities and parkways commission and the director of public services, made pursuant to this section, may be appealed to the city council pursuant to Chapter IX of Title 2 of this Code.

4.3.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to biological resources are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to biological resources would occur if the project would:

1. ***Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.***
2. ***Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.***
3. ***Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.***
4. ***Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.***
5. ***Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.***
6. ***Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.***

Four thresholds of significance were analyzed in the Initial Study for the proposed project and determined to be "less than significant" or "no impact." These were Thresholds 2, 3, 5, and 6. Thresholds 2 and 3 involve impacts to wetlands and riparian habitat, neither of which exist on the campus.

Hydrology and vegetation were examined throughout the project study area during the site visit (Dudek 2015; Appendix C) to identify potential wetland sites and/or non-wetland waters (e.g., drainages, channels), though an official jurisdictional delineation was not performed. No jurisdictional wetlands or non-wetland waters occur within the study area. Additionally, riparian habitats were not identified within the project area. Therefore, implementation of the proposed project activities would not result in impacts to state or federal jurisdictional waters (and wetlands) or riparian habitat.

Thresholds 5 and 6 involve conflicts with local policies, ordinances, or other planning documents. The proposed project would be in compliance with the City of Costa Mesa General Plan Conservation Element Policies CON-1A.1 and CON-1A.5. These policies are in place to protect biological resources from development and to pursue off-site mitigation when on-site mitigation is infeasible. Additionally, the City of Costa Mesa has a tree preservation policy in place, which requires replacement of all mature trees removed during landscaping or new construction. City of Costa Mesa Municipal Code Sections 15-126, 15-130, 15-131, 15-132, and 15-138 are all in place to preserve and protect trees within the city. The proposed project would be in compliance with all local policies and ordinances protecting biological resources. Therefore, the proposed project would not conflict with any local policies or ordinances protecting biological resources, including a tree preservation policy or ordinance.

The proposed project is not located within any adopted habitat conservation plan, natural community conservation plan, or local or regional habitat conservation plan areas. Additionally, the project is not located within any Non-Reserve Supplemental Habitat Special Linkages and/or Existing Use Areas identified within the Natural Community Conservation Plan and Habitat Conservation Plan for the County of Orange Central and Coastal Subregions (Central–Coastal NCCP/HCP) (County EMA 1996). The nearest Reserve Area is the Upper Newport Bay Regional Park, located approximately 2 miles southeast of the project area. Additionally, the site is proposed to occur on previously disturbed land within an existing college campus. Since the project is not located within any approved plan areas, the proposed project would not impact the goals and objectives of any adopted plans.

4.3.4 Impacts Analysis

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in

local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Based on the Biological Resources Letter Report (Dudek 2015; Appendix C), no federally or state-listed species or other special-status species were observed within the study area. Potential special-status plant and wildlife species (i.e., federally, state-, or locally listed species), their favorable habitat conditions, and their potential to occur on site based on the findings of the field investigations are presented in Appendix C.

Special-Status Plant Species

Special-status plants are not known to occur within the study area, nor do any special-status plant species have a potential to occur within the proposed project area due to the disturbed condition of the site and the surrounding urban environment. Surrounding properties have been built out or are zoned for development and no adjacent natural areas occur. The proposed project is planned to occur within an existing college campus surrounded by residential and commercial development.

A total of 19 species of vascular plants (5 native and 14 non-native) were recorded during the reconnaissance survey (Appendix C). No rare natural communities were identified. The diversity of native plant species is relatively low due to the ornamental plantings within the existing development and urban setting of the study area.

Five land cover types were identified within the project boundary, including developed land, disturbed land, eucalyptus woodland, ornamental plantings, and ruderal habitat. The land cover types observed and their acreages are presented in Table 4.3-1, and their spatial distributions are shown in Figure 4.3-1. No riparian habitats were identified within the project area boundaries.

Table 4.3-1
Vegetation Communities and Land Cover Types On Site

Vegetation Community/Land Cover Type	Acreage
Developed land	113.99
Disturbed land	5.72
Eucalyptus woodland	0.70
Ornamental plantings	35.71
Ruderal habitat	1.78
Total	**157.90**

Source: Dudek 2015 (see Appendix C).

The ruderal habitat mapped within the project area is the only land cover type with any potential, though minimal, to support special-status species. Ruderal habitat on site is found in a single area within the project area, totaling 1.78 acres. Additionally, this land cover appears to be compacted and routinely disturbed. Therefore, direct and indirect impacts to vegetation communities and special-status plant species are not anticipated as a result of the proposed project. Impacts are considered less than significant, with no mitigation recommended. Therefore, implementation of the proposed project is not anticipated to impact special-status plant species. Direct and indirect impacts to special-status plant species would be less than significant.

Special-Status Wildlife Species

There are three special-status wildlife species with moderate potential to occur within the project area: Cooper's hawk (*Accipiter cooperii*), monarch butterfly (*Danaus plexippus*), and Yuma myotis (*Myotis yumanensis*). Although no special-status avian species are known to occur within the study area, there is a potential for Cooper's hawk to occur within the area; Cooper's hawk is on the California Watch List (nesting only). Potential short-term indirect impacts would primarily result from the generation of fugitive dust, chemical pollutants, increased human activity, and other adverse effects that may be associated with construction and future operation of the proposed project. However, implementation of standard construction best management practices and construction-related minimization measures to control dust, runoff, trash/debris, and chemical pollutant spills would ameliorate the short-term effects.

In urban areas, Cooper's hawks are known to nest within tall ornamental trees (e.g., eucalyptus (*Eucalyptus* spp.)). While the project area contains tall ornamental trees (eucalyptus and pine (*Pinus* spp.)) that provide suitable nesting substrate to support this species, no raptor nests were identified during the field visit. Additionally, Cooper's hawk was not observed during the site visit nor are there any documented occurrences within 5 miles of the project site (CDFW 2013). Therefore, the likelihood of this species nesting within the project area is minimal. Impacts to Cooper's hawk are not anticipated to occur as a result of the proposed project. Nonetheless, it is recommended that the proposed project activities be planned to occur outside of the general nesting season (February 1 to August 31). If construction activities must occur within the general nesting season, a pre-construction nesting bird survey is recommended (MM-BIO-1). Therefore, absent mitigation, impacts to special-status avian species would be potentially significant.

Monarch butterfly (not state- or federally listed) has a moderate potential to overwinter within the project site. The eucalyptus woodland land cover observed throughout the proposed project site could provide wintering habitat for the monarch butterfly. However, overwintering sites have not been documented within the project area. Therefore, impacts to this species are anticipated to be less than significant and no mitigation measures are recommended.

Yuma myotis (not state- or federally listed) is the only special-status mammal species with moderate potential to occur on site. Yuma myotis is known to occur within urban areas and is a common species of Orange County (Dudek 2015; Appendix C); however, this species has not been documented to occur within 5 miles of the proposed project area (CDFW 2013). The closest known occurrence of this species is approximately 18 miles northeast of the project area within Santa Ana Canyon (CDFW 2013). Although the campus could provide potential day roosts for this species, the proposed project site does not contain the open waters required by Yuma myotis for foraging and as a drinking source. Given the absence of historical occurrences of this species within the project area, lack of suitable foraging habitat, and the high level of human activity within the project area, this species is not anticipated to occur within the project area. Since the proposed project would occur within the existing campus boundary, overall population effects and impacts to this species' range are also not anticipated. Impacts to this species are anticipated to be less than significant.

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife?

The project site and the surrounding area are currently developed with urban uses and do not contain any significant areas of natural open space or areas of significant biological resource value. Developed areas within the study area include classroom buildings, education support facilities, pedestrian walkways, and parking lots. Development is the dominant land cover type within the project area, totaling 113.99 acres. No wildlife corridors are located on the site due to existing surrounding urban development. Therefore, no impacts related to wildlife corridors would occur.

4.3.5 Mitigation Measures

The eucalyptus woodland, ornamental planting, and ruderal habitat within the project area have the potential to support nesting birds protected under the federal MBTA and/or California Fish and Game Code (including Cooper's hawk, discussed in Section 4.3.4). The following mitigation measure would reduce potential special-status avian species impacts to a less-than-significant level:

MM-BIO-1 If construction activities are scheduled to take place adjacent to potential bird nesting habitat during the general bird breeding season (i.e., February 1 through August 31), a nesting bird survey shall be conducted by a qualified biologist to determine the presence of nests[1] or nesting birds within 300 feet (500 feet for raptors) (given the level of disturbance associated with the project area) of the construction activities. The nesting bird survey shall be completed no more than 72 hours prior to any construction activities.

1 A "nest" is defined as a structure or site under construction or preparation, constructed or prepared, or being used by a bird for the purpose of incubating eggs or rearing young. Perching sites and screening vegetation are not part of the nest.

The survey will focus on special-status species known to use the area as well as other nesting birds that are protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. If an active nest[2] (defined by the presence of eggs or young) is identified, grading or site disturbance within an appropriate buffer (e.g., 500 feet for raptors and 250 feet for other birds) of the nest shall be monitored by a qualified biologist regularly until project activities are no longer occurring within the required avoidance buffer of the nest or until fledglings become independent of the nest. All staging and construction equipment access routes shall be located away from nesting birds at all times.

The monitoring biologist may adjust the buffer radius if he or she determines it is necessary. The monitoring biologist shall halt construction activities determined to be disturbing nesting activities. The monitor shall make practicable recommendations to reduce the noise or disturbance in the vicinity of the nest. This may include recommendations such as (1) turning off vehicle engines and other equipment whenever possible to reduce noise, (2) working in other areas until the young have fledged, or (3) placing noise barriers to maintain the noise at the nest to 60 A-weighted decibels (dBA) equivalent level (L_{eq}) hourly or less or to the pre-construction ambient noise level if that exceeds 60 dBA L_{eq} hourly. The on-site biologist will review and verify compliance with these nesting boundaries and will verify that the nesting effort has finished. Construction activities restricted by this measure can resume when no other active nests are found within the restricted area.

4.3.6 Level of Significance After Mitigation

Implementation of the mitigation measure MM-BIO-1 would reduce potentially significant impacts to special-status avian species to below a level of significance.

4.3.7 Cumulative Impacts

A significant adverse cumulative biological resources impact would occur where the construction or operation of the cumulative projects would encroach into areas containing sensitive biological resources, affect the movement of wildlife species, or affect the functionality of a planned conservation area. As previously discussed, the proposed project would occur in a highly urbanized area (OCC campus) in the City of Costa Mesa. Developed and previously disturbed areas dominate the study area and include impervious surfaces and ornamental

[2] An "active nest" is defined as a structure or site where birds have begun constructing, preparing, or using a nest for egg-laying. A nest is no longer an active nest if abandoned by the adult birds or once nestlings or fledglings are no longer dependent on the nest.

landscaping. Overall wildlife abundance and species richness appear to be low because of the urbanized nature of the study area. No special-status plant or wildlife species were identified in the study area during the biological evaluation (Appendix C). However, the potential for one special-status avian species (Cooper's hawk) does exist. Mitigation is proposed to minimize adverse impacts to this species.

Similarly, projects surrounding the OCC campus could also provide habitat for the same species. The combined construction of projects within the vicinity could deprive the affected species of a significant amount of habitable space. However, it is anticipated that related projects that would potentially affect the species would also be subject to the same requirements of CEQA as the proposed project. These determinations would be made on a case-by-case basis and the effects of cumulative development on nesting birds would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements. Therefore, cumulative adverse effects on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS would be less than significant.

4.3.8 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

16 U.S.C. 703–712. Migratory Bird Treaty Act.

16 U.S.C. 1531–1544. Endangered Species Act of 1973.

33 U.S.C. 401–430. Rivers and Harbors Act of 1899.

33 U.S.C. 1251–1376. Water Pollution Control Act Amendments of 1972.

50 CFR 10.12. Definitions.

50 CFR 10.13. List of Migratory Birds.

50 CFR 21.11. General Permit Requirements.

California Fish and Game Code, Sections 2050–2069. California Endangered Species Act.

California Public Resources Code, Sections 30000–30900. California Coastal Act of 1976.

California Water Code, Section 13000–14958. Porter-Cologne Water Quality Act of 1969.

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County EMA (County of Orange, Environmental Management Agency). July 1996. *Central and Coastal Subregion Natural Community Conservation Plan and Habitat Conservation Plan. Parts I & II NCCP/HCP; Part III Joint Programmatic EIR/EIS.* Prepared by R. J. Meade Consulting, Inc., San Diego, California. Available at: http://www.naturereserveoc.org/documents.htm.

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SOURCE: Bing Imagery, 2015; Coast Community College Vision Plan, 2012; County of Orange.

7910

FIGURE 4.3-1

Vegetation Map

Orange Coast College Vision 2020 Facilities Master Plan Recirculated Program EIR

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4.4 CULTURAL RESOURCES

This section describes the existing cultural resources of the Orange Coast College campus, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project). The discussion in this section is based on the Historic Resources Technical Report (HRTR) prepared by Ostashay and Associates, in August 2015, the Cultural Inventory Memo prepared by Dudek in October 2013, the Paleontological Resource Survey Report prepared by Paleo Solutions Inc. in December 2013, and the Orange Coast College Historic Structures Report (HSR) prepared by Page & Turnbull in May 2015. All four reports are included as Appendix D.

4.4.1 Existing Conditions

Cultural resources include prehistoric resources and historical-period resources. Prehistoric resources are physical properties resulting from human activities that predate written records and are generally identified as isolated finds or sites. Prehistoric resources can include village sites, temporary camps, lithic (stone tool) scatters, roasting pits/hearths, milling features, rock features, and burials. Historical resources consist of physical properties, structures, or built items resulting from human activities after the time of written records. In North America, the historical period is generally considered to be equivalent to the time period since European contact, beginning in AD 1492. Historical resources can include archaeological remains and architectural structures. Historical archaeological site types include town sites, homesteads, agricultural or ranching features, mining-related features, refuse concentrations, and features or artifacts associated with early military use of the land. Historical architectural resources can include houses, cabins, barns, lighthouses, early military structures, and local structures, such as missions, post offices, and meeting halls.

4.4.1.1 Historical Setting

In assessing the historic significance of properties located within the study area, various criteria for designation under federal, state, and local landmark programs were considered and applied. The California Office of Historic Preservation survey methodology and instructions were used to evaluate the relative significance of properties.

History of Orange Coast College

In the late nineteenth century, the concept of a junior college that bridged secondary and higher education started to develop among educators in the United States. This concept grew when secondary education became the norm and existing colleges and universities could not keep up with the demand. Two year colleges developed to provide the first two years of general education courses and at the same time, the demand for junior colleges kept growing as industrialization and larger businesses increased the need for skilled workers with vocational training beyond that provided by high schools.

California was at the forefront of developing junior colleges. In 1907, the California legislature adopted the Upward Extension Law allowing high schools to offer “postgraduate” classes. Fresno High School first used the law in 1910 as the state’s first public junior college (Page & Turnbull 2015). In subsequent years, several junior colleges were established in California as extensions of high schools and often sharing campuses. These included Fullerton College (1913) and Santa Ana College (1915) in Orange County, both which are still operating as community colleges.

Between 1900 and 1920, 14 public junior colleges were established in California. In the 1920’s and 1930’s the junior college concept continued to grow as legislation allowed for state and county support of the junior colleges.

Heightened recognition of the importance of junior colleges came in the postwar years. The passage of the G.I. Bill in 1944 provided veterans with financial assistance for higher education and created unprecedented demand for access to colleges, universities and training schools in the United States.

In 1947, the District bid on land and buildings at the inactive Santa Ana Army Air Base (SAAAB) for its new campus. In January of 1948, 243 acres of land on the northern section of the old base was turned over to OCC from the War Assets Administration. The deal included 71 buildings that contained 285,000 square feet. Four of the barracks were remodeled as living quarters for student veterans and their families. Two were remodeled and used for dormitories and two for apartments. In addition, the base theater was converted into a school auditorium; the service club was converted into a gymnasium; a mess hall was converted into a cafeteria; a chapel was renamed “Veteran’s Memorial Chapel;” and the other former barracks buildings became classrooms. The college held an open house on September 10, 1948, and classes started 3 days later.

Because the army buildings did not meet state education standards, new buildings were needed. The District retained Los Angeles-based architect Robert E. Alexander to develop a campus master plan in 1948 who also designed the first buildings on site. He was assisted by local Corona del Mar architect Richard Pleger who worked as an associate architect on the project. In 1952, a partnership with Richard Neutra was formed, and the two worked on the planning and architecture of the new OCC campus and furthered the seven year master plan to realization. The agreed-upon scope for the Neutra and Alexander work was that each would make basic conceptual idea/design contributions, with Neutra taking chief responsibility for the architectural design and Alexander assuming control of planning, organization, public relations, and logistics. Neutra provided design ideas for a business education building (complex), a science building (complex), an athletic facility, and a speech arts and music center with a large theatre. All the while, the architects were assisted by associate architect Richard Pleger who was hired on to help coordinate the projects locally; act as liaison between the architects, the Board, and the contractors; and provide general assistance. The OCC campus developed over a period of several years with the Neutra- and Alexander-designed features occurring throughout the 1950s.

After almost ten years of service, Neutra and Alexander's contract was not renewed by the Board. Rather the Board considered a new set of architects to finish the initial master plan programming and author in a second phase of development and expansion for the campus. It was also at this time that the partnership of Neutra and Alexander began to strain and was ultimately dissolved in 1958. They both went on to manage their own architectural practices.

In November 1956, the Board authorized the architectural firm of Pleger, Blurock and Hougan (later changed to Pleger, Blurock, Hougan, and Ellerbroek) to prepare plans and specifications for the design of a Home Economics Building. The design of the new complex was to be as specified in Alexander's master plan and as designed by Neutra, which called for two parts a general classroom wing and a main wing for home economics facilities. The two-part Home Economics Building was constructed by A.D. Penhall, general contractor, and completed in June 1958. The building originally was designed with a craft and supplementary clothes laboratory, a complete clothing laboratory, a laundry area and a foods laboratory. Also included were a living room classroom, six separate classrooms, and a clothing workroom and food workroom. The grounds about the complex were designed by landscape architect Frederick M. Lang. On campus today, these facilities are now referred to and used as the Journalism Building and Writers Row.

Historically, the OCC campus was planned in incremental stages over a period of years. The central core of the campus physically and visually reflects the unity and cohesiveness architects Neutra and Alexander, as well as landscape architect Garrett Eckbo, were trying to achieve in their initial master planning of the college. This interrelationship between buildings is evident in their scale, size, design, materials, placement, shape, and composition. The interrelationship between the buildings and landscape is still physically and visually evident by the arrangement and configuration of walkways, plantings, signage, and other outside features (see Photos 23, 24, 33, 34, 35, 36, 37, and 38 of the Ostashay & Associates' HRTR in Appendix D).

Collectively, the buildings' combination of relaxed informality and restrained compositional style along with the distinctive landscape features defines the core campus as a Neutra-inspired design. The locations of buildings on campus are illustrated in Figure 3-3. The detached, one-story linear classroom wings of brick, stucco, wood, and glass, and a more explicit interaction with the outdoor plantings and hardscape features help to achieve this more informal effect. The long sleek band of ribbon windows, stucco sheathing with brick treatment, spider leg outriggings, louvered wall screens and canopies, and detailing connect the buildings and their design with Neutra's earlier work.

The college buildings were set at a distinct 45-degree angle from the north–south orientation of the old base configuration and that of the city grid. Their placement was designed to take advantage of the prevailing southwest breezes that helped to cool the interior spaces of the buildings and to provide all-day indirect sunlight for the classrooms. Much of the landscape was likewise set at an angle to complement the orientation of the classrooms. From its inception, Eckbo adapted the initial landscape plan as the campus master plan evolved in development and design. Eckbo established tree patterns, using eucalyptus, palm, and pine trees set throughout and around the campus, to act as windbreaks. The central quad pattern of paving, grass, water, shrubs, and trees were planted adjacent to the buildings and within the brick screen walls of each classroom wing for privacy, intimacy, and warmth. Their spatial relationships purposely interconnected with the built environment. The goal was to have a complete and fully integrated landscape plan with the new Neutra- and Alexander-designed campus buildings.

The planning, forms, and materials of postwar educational facilities also reflected the ongoing research into air flow, lighting, and reflectivity. The planning goal of increasing a bright visual environment within the classroom was consistent with Alexander's general design principles as was the use of multitudes of fenestration; a practice that was well incorporated into the architecture of the early Neutra designed classrooms at OCC. Based on these principles and the direct association with Alexander and Neutra and the early master plan for the college, the following is a discussion regarding the earliest constructed improvements within the core of the OCC campus.

The basic design of the campus and classrooms were consistent with the building traditions of the time as well. Unlike most earlier classroom buildings, postwar campuses exploited steel framing, plate glass, and low-rise horizontal massing. The standardized plans of multi-story pre-war school structures were rejected by modernist architects of the day. The desire for flexibility, a key term of postwar building, enhanced the popularity of new materials and configurations of plan design for both lower and higher educational facilities. Flexibility was both a desirable quality for the structural aspects of a building, embodied in open corridors, non-load-bearing partitions, and zoned ventilation and heating systems, but also included provisions for rearranging interior features and spaces.

The core group of buildings set within the center of campus plays an integral role in the early development of the college. Their design conveys their part in the development of a modern community college, an educational system that came to fruition following World War II, and which reflected the Modern era and growth of the City of Costa Mesa and County of Orange.

Technology Building

The first permanent structure to be built on the OCC campus was the Technology Building. Ground was broken at the end of 1949, and the building was completed 11 months later with the dedication taking place on November 15, 1950. Designed by Robert Alexander, the Tech Building was a one-story structure that consisted of three saw tooth roof shop wings extending off a long linear flat roof classroom wing. Constructed at a cost of approximately $393,983, the structure stood for over 44 years until it was demolished in the 1990s after the Technology Center opened on OCC's western perimeter. The Doyle Arts Pavilion and new Library occupy the site where the original Technology Building once stood.

Library

South Coast Construction Company was the contractor who built the second library on campus in the fall of 1950. The very first library was located in a converted SAAAB barracks building and operated from 1948 to 1951. The bid for the new 11,000-square-foot reference repository was roughly $117,346. The one-story Modern style facility opened in the fall of 1951 and served as the Library until 1968. When the Library was relocated to Watson Hall (originally called the Norman E. Watson Library) the existing structure became the Counseling and Admissions Building. Located in the quad, the former library is identified by the distinctive tall framed clock tower (see Photos 8 and 18 of the Ostashay & Associates' HRTR in Appendix D). Additions were made to this building in the form of what are now classrooms and laboratories (Buildings 8 and 9) by Neutra and Alexander in 1950–1951.

Business Education Buildings

The Business Education Building is a complex comprised of three long, linear horizontal buildings (Buildings 12, 13, and 14) that were designed by Neutra and Alexander and completed in 1953 (see Photos 15 and 16 of the Ostashay & Associates' HRTR in Appendix D). These Modern style one-story buildings are sheathed in red brick and stucco and feature flat roofs; covered open walkways; ribbons of fixed and louvered fenestration; short brick "privacy" walls set at angle along the walkways for privacy, air circulation, and sun control; wooden louvered overhangs; and an outdoor seating area. These buildings originally contained classrooms and laboratories for secretarial, accounting, and office training services programs.

Robert B. Moore Theatre

On March 30, 1955, the $650,000 Speech Arts Building (now the Robert B. Moore Theatre) officially opened to the public. The auditorium that the college used prior to the new Speech Arts Building was a converted SAAAB movie theater that was located at the corner of Fairview Road and Monitor Way. That structure was removed in 1960. Designed by Robert Alexander and

Richard Neutra and acoustical engineer Dr. Vern Knudsen and constructed in 1954, the Speech Arts Building includes the grand "aula" or auditorium, which occupies a prominent location at the hub of the campus, as well as ancillary stage production areas, choral and instrument practice classrooms, and dressing areas. In plan, the minimalist auditorium is a semi-rounded and clipped ellipse; its footprint was shaped specifically to allow "theatre-in-the-round" productions and "audience-in-the-round" techniques. The theatre also accommodates a detached ticket booth office that is connected to the auditorium by covered walkways (see Photos 7 and 9 of the Ostashay & Associates' HRTR in Appendix D).

Science Building

The Science Building was completed in the spring of 1957 (see Photos 11 and 12 in the Ostashay & Associates' HRTR). Similar in configuration and design to the Business Education Building, the Science Building is a linear grouping of two buildings with an offset structure that houses a planetarium. These Modern style buildings are clad in red brick and stucco and feature flat roofs; covered open walkways; ribbons of fixed and louvered fenestration; short brick "privacy" walls set at angle along the walkways for intimacy, air circulation, and sun control; and wooden louvered overhangs (see Photo 13 of the Ostashay & Associates' HRTR in Appendix D). The small planetarium building is a distinctive feature as it is sheathed in similar vertical board siding as the theatre auditorium, has a round floor plan, and is capped by a dome shaped standing seam patina roof (see Photo 14 of the Ostashay & Associates' HRTR in Appendix D). This structure originally included a small shallow pool that followed the shape of the curved exterior wall; however, this feature has since been removed.

Gymnasium

The two-story OCC gymnasium, designed by Pleger, Blurock, Hougan, and Ellerbroek, was completed in December 1961 and was christened the Peterson Gymnasium after the founding president Basil H. Peterson in 1962 (see Photos 25 and 26 of the Ostashay & Associates' HRTR in Appendix D). Also designed in the Modern style, this complex also includes an outdoor swimming pool stadium with two pools (see Photos 29 and 30 of the Ostashay & Associates HRTR in Appendix D), men's locker room, and a women's locker room that are interconnected by covered walkways. The minimalist larger gymnasium features a multi-plane flat roof, minimal ornamentation, ribbons of clerestory windows, cantilevered canopies over pedestrian walkways, and a large glazed entry court that fronts south onto the parking lot. The one-story men's and women's locker rooms, as well as the pool stadium, are situated to the east of the gymnasium and are separated by a covered walkway. The locker rooms are similar in design features and basic form as the gymnasium, though on a smaller scale (see Photos 27 and 28 of the Ostashay & Associates' HRTR in Appendix D).

Football Stadium

The football stadium was initially opened on campus for the 1955 football season, and was dubbed Pirate Stadium. It is now called the Le Bard Stadium. The football stadium and associated facilities like the Field House, embankment bleachers, and announcer box were designed by Neutra and reflect elements of the Modern idiom in their design and materials. It was built to accommodate 7,600 fans. Dirt was excavated from the site of the field and piled high on the sidelines to form the underpinnings for the grandstands. The first graduation ceremonies took place on the field in June 1956. The facility was remodeled and substantially upgraded (seats, lighting, Americans with Disabilities Act (ADA) access, etc.) in 2004. Despite the upgrade to the stadium its basic design, form, configuration, and components are still evident from when it was initially constructed in 1955 (see Photos 31 and 32 of the HRTR in Appendix D).

Richard J. Neutra, Architect

Richard Joseph Neutra was a prominent and widely influential Modern architect who practiced globally for over 50 years. After World War I, Neutra worked in Germany briefly with architect Erich Mendelsohn before immigrating to the United States in 1923. After a brief stay in New York, he arrived in the Chicago area where he worked briefly with both Frank Lloyd Wright and Holabird & Roche. In 1925, Neutra settled in California, where he worked for the remainder of his career. In 1949, Neutra and fellow architect Robert E. Alexander established a partnership dedicated to project planning and of public and commercial architecture. Together they were responsible for planning and designing many high-profile projects throughout California. Neutra was introduced to Orange Coast College in 1952.

Neutra’s architectural style was distinctly Modern, but with an emphasis on organic lines, natural materials, and integration of the outdoors. Neutra coined his philosophy of architecture “Biorealism” because of his insistence that Modern architecture be humanistic and recognized the client’s needs for comfort and aesthetic pleasure. His later work evolved to project a warmer and more relaxed character compared to his earlier projects that were the embodiment of the International Style. His focus on the concept of transparency, distortion of visual indoor and outdoor spatial relationships, and the refinement of his trademark “spider leg” out riggings were well incorporated into many of his later works.

Neutra’s signature works include Modern residences in California, such as the Lovell House built in Los Angeles from 1927 to 1929; housing projects designed for the Federal Housing Authority from 1945; and several Case Study Houses designed and built from 1945 to 1948 in partnership with *Arts and Architectural* magazine. In addition to homes, Neutra, designed many distinguished public buildings, including the Channel Heights housing project in San Pedro, 1932; the Los Angeles Hall of Records, 1961–1962; the U.S. Embassy in Karachi, Pakistan, 1961; and many educational facilities such as Emerson Jr. High School in West Los Angeles, 1938; Palos Verdes High School in California, 1961; the Fine Arts Building at Cal State Northridge, 1961; the Kester Avenue Elementary School in Los Angeles, 1951; the Richard J. Neutra Elementary School in Lemoore, 1961; and the OCC campus in the 1950s.

Neutra is considered one of the world's most influential Modern architects. His innovative and open plan designs express the freedom from conventions that many find in Southern California. In 1949 he was featured on the cover of *Time* magazine and hailed for having humanized Modern architecture. In 1955, the Richard Neutra archive was established at the University of California, Los Angeles. In 1977, he was posthumously awarded the American Institute of Architects' highest honor, the Gold Medal. The buildings at the OCC campus that were designed by Neutra are indicative of his "Biorealism" architectural philosophy and stylistic conventions for modern educational facilities at the time. This collection of buildings is the oldest physical manifestation of his small portfolio of work within the Orange County region.

Robert E. Alexander, Architect

Robert Evan Alexander was a distinguished architect and urban planner whose work primarily included large-scale commercial buildings, military housing, college campuses, churches, and other public projects. Between 1946 and 1949, Alexander practiced as an independent architect. His innovative ideas for affordable housing produced the nationally prominent Baldwin Hills Village in southwest Los Angeles. Only a few years after operating his own design studio he went into partnership from 1949 to 1958 with noted architect Richard J. Neutra to form the firm Neutra and Alexander. Together they collaborated on a number of large-scale public projects, including the campus design of OCC in Costa Mesa which spanned the period of their partnership.

Garret Eckbo, Landscape Architect

Garrett Eckbo is recognized as one of the central figures in American modern landscape architecture whose career spanned five decades. Eckbo worked to change the typical formal Beaux-Arts system of landscape design as his work demonstrated innovative design ideas in a social and economic setting. He was known for thinking of the "broad landscape and society first, before focusing on the garden," a notion that was reflected in the types of work he was commissioned for during his career. His designs were centered on the garden, which he believed was the prototype for all landscape design. His work was influenced by modernist European architecture, modern art, and vernacular landscape traditions. Like other modern landscape architects of the period, Eckbo saw the landscape as an extended living space tied to residential interiors. He frequently incorporated patios, pools, and other structures into his designs, ultimately designing outdoor rooms within the landscape.

A graduate of the University of California at Berkeley, Eckbo completed graduate work at the Harvard School of Design. From 1942 to 1945, he participated in the World War II effort by contributing landscape designs for defense housing in the San Francisco region. In the post-war years he founded a firm with Robert Royston and Edward Williams that focused primarily on suburban parks and planned communities. The firm's projects included a multitude of garden designs and collaborations with Modernist architects, such as architects Robert Alexander and Richard Neutra, on several large-scale planning and development ventures. Eckbo left Eckbo, Royston, and Williams in 1958. As Alexander worked on the basic site for the new modern OCC, he brought Eckbo in to help integrate a landscape plan that was both functional and aesthetically pleasing. In 1964, he would cofound the landscape architecture firm of Eckbo, Dean, Austin and Williams (EDAW). He died in 2000, but his legacy continues to influence the practice of landscape architecture.

4.4.1.2 Geologic Setting

Surficial deposits within the campus are entirely mapped as old paralic deposits (less than 500,000 years old). The campus itself is relatively flat-lying in a highly developed portion of the City of Costa Mesa. Recent deposits (10,000 years or younger) occur below and adjacent to the Interstate 405 (I-405) highway north of the OCC campus (Figure 4.4-1). Late to middle Pleistocene age (less than 500,000 years old) old paralic deposits are described as being "capped by extensive but thin, discontinuous, younger, locally derived, sandy alluvial fan deposits," and were derived from local streams draining from the surrounding mountains. Old paralic, or marginal marine, deposits of Pleistocene age may also be encountered at unknown depths below younger alluvial fan deposits. The old paralic deposits themselves consist of "poorly sorted, moderately permeable, reddish brown, beach, estuarine and colluvial deposits composed of silt, sand, and cobbled.

Pleistocene-age fossils have been found at shallow depths in surficial sedimentary deposits throughout Southern California. It is likely that Pleistocene age deposits underlie the campus at depth, and these deposits are known to produce Ice Age fossils elsewhere in the City of Costa Mesa. Older Paralic deposits of the same age have been documented during nearby development projects, and are presumed to underlie the younger alluvial fan deposits mapped within in the project area, but at an unknown depth. Older marine Quaternary terrace deposits are visible in the bluffs above the Santa Ana River west of the OCC campus.

Paleontological Environment

Pleistocene geologic units are mapped within the project area and have been assigned a high sensitivity based on their potential to yield significant, Ice Age mammals elsewhere in Costa Mesa (Appendix D).

Scientifically significant paleontological resources have been recovered from correlative Pleistocene older alluvial deposits throughout Southern California and include fossil plants, invertebrates, and mammals (e.g., ground sloth, rodents, horse, tapir, camel, deer, llama, mastodon, and mammoth). Previously, Pleistocene megafauna remains were typically found in mass accumulations, such as Rancho La Brea, and Cousteau Pit, or singly in stream deposits in the centers of more low-lying basins. Discoveries of Pleistocene megafauna in the terrace deposits are a relatively new phenomenon, largely associated with construction projects along the coast of Southern California. Old Pleistocene age deposits, although not visible at the surface, have the potential to yield significant paleontological resources, and have been assigned a high paleontological resource sensitivity (Appendix D).

The fossils found in older alluvium in California provide critically important paleoecological and paleoenvironmental data. They provide direct evidence of the composition and phylogenetic diversity of the Pleistocene biota, paleobiologic features of individual taxa, and evolutionary relationships of the fauna and flora through time. In combination, the fossil assemblages at individual localities, together with the sediments in which they are preserved, also provide indirect evidence of the nature of Pleistocene climates and environments, and importantly, the geographic distributions of different paleoenvironment types such as the fluctuating ocean shorelines, locations of inland lakes and swamps, upland habitats, and lowland habitats such as basin floors.

4.4.2 Relevant Plans, Policies, and Ordinances

Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) (16 U.S.C. 470 et seq.) establishes the nation's policy for historic preservation and sets in place a program for the preservation of historic properties by requiring federal agencies to consider effects to significant cultural resources (e.g., historic properties) prior to undertakings.

Section 106 of the NHPA requires federal agencies to take into account the effects of projects on historic properties (resources included in or eligible for the National Register of Historic Places (NRHP)). It also gives the Advisory Council on Historic Preservation and the state historic preservation offices an opportunity to consult. Federal agencies issuing permits for the proposed project will be required to comply with NHPA requirements.

Executive Order 11593, "Protection and Enhancement of the Cultural Environment"

Executive Order 11593 (36 FR 8921) (1) orders the protection and enhancement of the cultural environment through requiring federal agencies to administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations; (2) initiates measures necessary to direct their policies, plans, and programs in such a way that federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the people; and (3) in consultation with the Advisory Council on Historic Preservation, institutes procedures to assure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance (16 U.S.C. 470-1).

National Register of Historic Places

The NRHP is the nation's official list of historic places. The NRHP is overseen by the National Park Service and requires that a property or resource eligible for listing in the register meet one or more of the following four criteria at the national, state, or local level to ensure integrity and obtain official designation.

- The property is associated with events that have made a significant contribution to the broad patterns of our history.
- The property is associated with the lives of persons significant to our past. Eligible properties based on this criterion are generally those associated with the productive life of the individual in the field in which the person achieved significance.
- The property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components lack individual distinction.
- The property has yielded, or is likely to yield, information important to prehistory or history.

In addition to meeting at least one of these four criteria, listed properties must also retain sufficient physical integrity of those features necessary to convey historic significance. The register has identified the following seven aspects of integrity: (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association.

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 preservation officer if on tribal lands. Listing in the NRHP provides formal recognition of a property's historic, architectural, or archaeological significance based on national standards used by every state. Once a property is listed in the NRHP, it becomes searchable in the NRHP database of research information. Documentation of a property's historic significance helps encourage preservation of the resource.

State

California Public Resources Code

California Public Resources Code, Sections 5097–5097.6, identify that the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands is a misdemeanor. It prohibits the knowing destruction of objects of antiquity without a permit (express permission) on public lands, and it provides for criminal sanctions. This section was amended in 1987 to require consultation with the Native American Heritage Commission (NAHC) whenever Native American graves are found. Violations that involve taking or possessing remains or artifacts are felonies.

Public Resources Code, Section 5097.5, states that "no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historic feature situated on public lands, except with the express permission of the public agency having jurisdiction over the lands."

California Register of Historical Resources

The California Office of Historic Preservation maintains the California Register of Historical Resources (CRHR). The CRHR is the authoritative guide to the state's significant historic and archaeological resources. The program provides for the identification, evaluation, registration, and protection of California's historic resources. The CRHR encourages public recognition and protection of resources of architectural, historic, archaeological, and cultural significance; identifies historic resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protection to resources under the California Environmental Quality Act (CEQA).

The CRHR also has established context types to be used when evaluating the eligibility of a property or resource for listing. The four criteria are as follows:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- It is associated with the lives of persons important to local, California, or national history.
- It represents the work of a master, or possesses high artistic values.
- It has yielded, or is likely to yield, information important to prehistory or history of the local area, California, or the nation.

Similar to the NRHP, eligibility for the CRHR requires an establishment of physical integrity, including the seven aspects previously described. The CRHR's list of special considerations is less stringent than the NRHP's, providing allowances for relocated buildings, structures, or objectives as reduced requirements for physical integrity.

California Health and Safety Code

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code, Section 7050.5 et seq., requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County Coroner has examined the remains (Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Section 7050.5c). The NAHC will notify a Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (California Public Resources Code, Section 21000 et seq.). As defined in Section 21083.2 of the California Public Resources Code, a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

In addition, CEQA Section 15064.5 broadens the approach to CEQA by using the term "historical resource" instead of "unique archaeological resource." The CEQA Guidelines recognize that certain historical resources may also have significance. The Guidelines recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of California Public Resources Code Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of the PRC and Section 15064.5 of the Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the Guidelines, then the site is to be treated in accordance with the provisions of California Public Resources Code Section 21083, which is a unique archaeological resource. The Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (14 CCR 15064.5(c)(4)).

Local

Orange County General Plan Resources Element

The Resources Element sets forth a comprehensive strategy for the development, management, preservation, and conservation of resources that are necessary to meet Orange County's existing and future demands. This strategy is expressed as an integrated framework of resource goals, policies, and programs. Preservation of Orange County's significant archaeological, paleontological, and historical resources in a manner that both preserves the site and is compatible with development is desirable (County of Orange 2005).

City of Costa Mesa Historic Preservation Ordinance

The City of Costa Mesa, through provisions cited in the municipal code, has established procedures for preserving its designated historic and cultural resources. The provision relative to historic preservation is documented in the city's Historic Preservation Ordinance (City of Costa Mesa 2012). The Historic Preservation Ordinance states that a historic resource is any building, structure, natural feature, site, landscape, object, or improvement that is of significance to the citizens of the city, the state, or the nation. These properties must be over 50 years of age, unless they possess exceptional significance, and meet the significance criteria for listing in the NRHP or one of the following designation criteria:

- Exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history; or

- Is identified with persons or events significant in local, state, or national history; or
- 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; or
- Represents the work of a notable builder, designer, or architect; or
- Contributes to the significance of an 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; or
- Has a unique location or singular physical characteristics or is a view or vista representing an established and familiar visual feature or a neighborhood, community or of the city; or
- Embodies elements of architectural design, detail, materials, or craftsmanship that represent a significant structural or architectural achievement or innovation; or
- Is similar to other distinctive properties, sites, areas, or objects based on historic, cultural, or architectural motif; or
- Is a type of building or is associated with a business or use which was once common but is now rare; or
- Yields or may yield, information important in prehistory or history, and retains the integrity of those characteristics necessary to convey its significance.

A property is usually considered for its historic significance after it reaches the age of 50 years. This threshold is not concrete, but was chosen as a reasonable span of time to develop historical perspective and evaluate significance adequately. Both the CRHR and the City of Costa Mesa historic preservation ordinance reflect the lead of the NRHP when assessing properties less than 50 years old for historical significance and utilize the 50-year threshold.

4.4.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to cultural resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to cultural resources would occur if the project would:

1. ***Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.***
2. ***Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.***

3. ***Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.***
4. ***Disturb any human remains, including those interred outside of formal cemeteries.***

No topics related to cultural resources were eliminated in the Initial Study for the proposed project; therefore, all topics are covered in the PEIR impacts analysis.

4.4.4 Impacts Analysis

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

The OCC campus was assessed for historic significance as part of a citywide survey in 1999. As part of this project, the campus was reassessed for historical significance in February 2014 in order to identify any potential historic resources as defined by CEQA Guidelines. Based on the 2014 historical evaluation, it was determined that within OCC's core campus is an identified historic district that is potentially eligible for listing in the CRHR under Criterion 1 for its early master planning concepts of a community college located within Orange County and under Criterion 3, for its distinctive architectural and design qualities and for its direct association with master planner and architect Robert E. Alexander; master architect Richard Neutra; landscape architect Garrett Eckbo; and Orange County architect William E. Blurock. The OCC core campus is also locally significant as a potential City of Costa Mesa landmark. The period of significance for the historic district as determined by Ostashay & Associates is 1948 to 1964. The period represents the founding of the community college during its initial phase of planning and development and those master plan components associated with Robert Alexander and brought to realization by Alexander, Neutra, Eckbo and Blurock. Ostashay & Associates identified 23 buildings, structures, and features, and one set of landscape features located within the boundary of the historic district. These resources, including the landscape features, are classified as contributors to the potential district.

In late 2014, Page & Turnbull was commissioned by the District to prepare a Historic Structures Report (HSR), which is identified as the first mitigation measure (MM-CUL-1). As part of preparing the HSR, Page & Turnbull was asked to review the Ostashay & Associates' HRTR and conduct additional research as needed to confirm the findings. Based on supplemental research and analysis, Page & Turnbull identified a smaller historic district (15 buildings) with a narrower period of significance (1950 to 1957) and fewer contributors. Page & Turnbull's finding is of an OCC Historic District under Criterion A/1 (events) in the context of education for its direct association with postwar expansion of access to higher education in Orange County and under Criterion C/3 (design/construction) as an excellent example of Midcentury Modern campus planning and design as applied to a junior college involving the work of master architects Neutra and Alexander. While Page & Turnbull identified a smaller district, their overall finding of historic significance is in agreement with Ostashay & Associates' finding. Therefore, two separate cultural resources firms have found evidence of a historic district on the Orange Coast College campus.

The period of significance of 1950 to 1957 coincides with construction of OCC's first permanent buildings through 1957 when the final Neutra and Alexander-designed building was completed. The end date also corresponds to the end of the seven-year limited local tax that funded the initial campus development. Considering this shortened period of significance, the revised district boundaries encompass only the Neutra and Alexander buildings and landscapes from this period which also includes two discontiguous districts: the campus core and the athletic complex including the Swimming Pool, Stadium, and Field House.

Table 4.4-1 provides a list of buildings on the OCC campus that either contribute to the potential historic district status or not, and the years they were built and it shows the differences between the two reports. The areas of agreement for contributors to the historic district are highlighted in grey. These building locations are illustrated in Figure 4.4-2.

Table 4.4-1
Orange Coast College Historic District Inventory

OCC Map No.	EIR ID No	Building	DOC	HRTR Historic District Status	HSR Historic District Status	Architect (s)
87	1a	Watson Hall	1969	Non-contributor	Outside of district	
89	1b	Student Health Center	1978	Non-contributor	Outside of district	
105 & 110	7	Stadium and Field House	1955	Contributor	Contributor	Neutra & Alexander with Pleger
1	15	Administration	1975	Non-contributor	Outside of district	
12	16a	Business Education Wing	1953	Contributor	Contributor	Neutra & Alexander with Pleger
13	16a	Business Education Wing	1953	Contributor	Contributor	Neutra & Alexander with Pleger
14	16a	Business Education Wing	1953/1976	Contributor	Non-contributor	Willaim Blurock & Partners addition
11	16b	Faculty House	1957	Non-contributor	Non-contributor	
8	17a	Classroom and Lab with library extension [Library addition]	1950/1955	Contributor	Contributor	Alexander with Pleger/Neutra
9	17a	Classroom and Lab	1955	Contributor	Contributor	Alexander with Pleger
7	17b	Counseling Admission (Student Success Center) [Library]	1950	Contributor	Contributor	Alexander with Pleger
10	17c	Special Services [Faculty Offices and Tutorial Center]	1975	Non-contributor	Non-contributor	

Table 4.4-1
Orange Coast College Historic District Inventory

OCC Map No.	EIR ID No	Building	DOC	HRTR Historic District Status	HSR Historic District Status	Architect (s)
91	18	Gymnasium	1961	Contributor	Outside of district	Pleger, Blurock, Hougan and Ellerbroek
92	18	Women's Locker Room	1962	Contributor	Outside of district	Pleger, Blurock, Hougan and Ellerbroek
93	18	Pool Stadium	1954	Contributor	Contributor	Neutra & Alexander
96	18	Men's Locker Room	1962	Contributor	Outside of district	Pleger, Blurock, Hougan and Ellerbroek
2	19	Theatre (Auditorium)/Drama Lab/Studio [Speech Arts Building]	1954	Contributor	Contributor	Neutra & Alexander
40	24	Science Hall	1964	Contributor	Outside of district	Pleger, Blurock, Hougan and Ellerbroek
41	24	Math Lecture Halls 1 and 2	1971	Non-contributor	Outside of district	
35	25a	Math Wing [Science Building]	1956/1957	Contributor	Contributor	Neutra & Alexander with Pleger
36	25a	Math Wing [Science Building]	1956/1957	Contributor	Contributor	Neutra & Alexander with Pleger
37	25b	Reprographics Center [Science Building]	1956/1957	Contributor	Contributor	Neutra & Alexander with Pleger
38	25a	Science	1960	Contributor	Non-contributor	Pleger, Blurock, Hougan and Ellerbroek
39	26	Planetarium [Science Building]	1956	Contributor	Contributor	Neutra & Alexander with Pleger
72	27	Journalism [Home Economics]	1958	Contributor	Outside of district	Pleger, Blurock, Hougan and Ellerbroek
73	28	Computing Center [Data Processing Center]	1963	Contributor	Outside of district	Pleger, Blurock, Hougan and Ellerbroek
80	29a	Social and Behavioral Sciences	1965	Non-contributor	Outside of district	
83	29b	Bookstore	1965	Non-contributor	Outside of district	
4	31	Music Wing [Speech Arts Building]	1954	Contributor	Contributor	Neutra & Alexander with Pleger
81	32	Social and Behavioral Sciences Forum	1960	Contributor	Outside of district	Pleger, Blurock, Hougan and Ellerbroek
149	33	Bursar's Office	1993	Non-contributor	Outside of district	
71	36	Writer's Row [Home Economics]	1958	Contributor	Outside of district	Pleger, Blurock, Hougan and Ellerbroek
150	38	Classroom and Lab	1993	Non-contributor	Outside of district	
86	14	Student Center	1952	Non-contributor	Outside of district	Neutra & Alexander with Pleger
N/A	N/A	Science Building Art Piece: Armillary Sphere	1957	Contributor	Contributor	Peterpaul Ott with Alexander

Table 4.4-1
Orange Coast College Historic District Inventory

OCC Map No.	EIR ID No	Building	DOC	HRTR Historic District Status	HSR Historic District Status	Architect (s)
N/A	N/A	Landscape Elements: main quad area walkways, planters, plantings, etc.	1950s	Contributor	Contributor	Alexander, Eckbo
97	N/A	Handball Courts	1962	Non-contributor	Outside of district	
103	N/A	Track and Field	1942	Non-contributor	Outside of district	
N/A	N/A	Tennis Courts	1960s	Non-contributor	Outside of district	

Source: See Appendix D.

Contributors to the District represent the significant property types that comprise a historic community college educational institution. These include the classroom facilities, laboratory facilities, student/faculty support facilities, lecture auditoriums and theater, physical education facilities, and lecture halls. Landscape features of the district include paved walkways and their material, location, configuration, and design; mature plantings set around classroom buildings and within screen walls, patio areas, and open sitting areas; distinct planter boxes, signage, and other similar objects within the core campus grounds; and many of the mature plantings and tall trees set within the campus grounds. A single building, the Robert B. Moore Theatre, has also been identified as individually eligible for listing in the CRHR.

In order to achieve the goals and objectives of the Vision 2020 Facilities Master Plan, the proposed project would involve the demolition of certain existing buildings, the renovation of existing buildings, and the construction and eventual operation of new buildings and campus facilities. The proposed project would also involve improvements to the existing pedestrian circulation network in and around the campus and the enhancement of open space areas through landscape and pedestrian plaza improvements. Construction of the proposed project would result in the reconfiguration of existing parking lots and vehicular entryways, and the addition of parking structures on the OCC campus.

Approximately eleven buildings and structures are proposed for demolition under the Vision 2020 Facilities Master Plan. Table 4.4-2 below summarizes the buildings proposed for demolition.

Table 4.4-2
Orange Coast College Buildings Proposed for Demolition

OCC Map No.	ID No	Building	DOC	Historic District Status (per Page & Turnbull)
86	14	Student Center	1952	Outside of District
1	15	Administration	1975	Outside of District
11	16b	Faculty House	1957	Non-contributor
9	17a	Classroom and Lab	1950	Contributor
7	17b	Counseling Admission (Student Success Center)	1950	Contributor
10	17c	Special Services	1975	Non-contributor
91	18	Gymnasium	1961	Outside District
92	18	Women's Locker Room	1962	Outside of District
93	18	Pool Stadium	1954	Contributor
96	18	Men's Locker Room	1962	Outside of District
110	7	Field House	1955	Contributor
35	25a	Math Wing [Science Building]	1956/1957	Contributor
36	25a	Math Wing [Science Building]	1956/1957	Contributor
37	25b	Reprographics Center [Science Building]	1956/1957	Contributor
38	25a	Science	1960	Non-contributor
39	26	Planetarium (Science)	1956	Contributor
72	27	Journalism [Home Economics]	1958	Outside of District
80	29a	Social and Behavioral Sciences	1965	Outside of District
83	29b	Bookstore	1965	Outside of District
149	33	Bursar's Office	1993	Outside of District
	34	District Transportation Office	N/A	Outside of District
71	36	Writer's Row [Home Economics]	1958	Outside of District
	37	Campus Public Safety	N/A	Outside of District
150	38	Classroom and Lab	1993	Non-contributor
	N/A	Landscape Elements: main quad area walkways, , planters, plantings, etc. Note: The District has no plans to specifically remove or demolish landscape elements; however, if new buildings are constructed in former quad areas this would be an impact to the former configuration of the quad and campus layout, which is considered to be a contributing historic element.	1950s	Contributor

Source: See Appendix D.

The proposed project anticipates the demolition of existing core campus buildings (OCC Campus Historic District) and repurposing the Business Education Wing. The proposed project would retain the Robert B. Moore Theater, Music Wing, Stadium, and Business Education (Neutra and Alexander) buildings. The existing setting of the core campus area would be redesigned and reconfigured in a manner that would destroy the historic character of the site and those qualities that convey the district's historical significance, period of significance, and eligibility to the

CRHR and local City of Costa Mesa landmark list. The demolition, reconfiguration, and redesign of contributing resources as proposed by the current project would result in significant and unmitigable impacts to historical resources. These impacts cannot be mitigated to a less-than-significant level. Nonetheless, mitigation measures are provided to help reduce the severity of significant impacts (MM-CUL-1 through MM-CUL-3).

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

According to the Cultural Inventory Memo (Dudek 2013) (Appendix D), no artifacts or archaeological features were identified within the proposed project area. Portions of the project area have been previously disturbed by mechanical grading, landscaping, road construction, drainage control, and general development. It is unclear as to the depth and character of past disturbances within some of these areas; however, it is evident that it has been substantial. A NAHC search for sacred lands was conducted in September 2013. The search did not indicate the presence of Native American traditional cultural places within the area, or the surrounding 1-mile buffer. However, correspondence with the Gabrieleno Band of Mission Indians/Kizh Nation and the Juaneño Band of Mission Indians/Acjachemen Nation, indicate that culturally sensitive locations exist in the surrounding area and Native American monitoring has been requested during earthmoving activities (MM-CUL-4).

It has been determined that there is low potential for the inadvertent discovery of cultural resources during ground-breaking activities. The area has been highly disturbed by past modifications to the campus, and impacts to archeological resources during each phase of the proposed project would not be significant. Due to the highly developed setting of this project, and the lack of evidence for archaeological resources nearer than a half-mile distance, it has been determined that archaeological monitoring is unnecessary during future ground-disturbing activities associated with the proposed project. However, Native American monitoring has been requested by local tribes and would be provided during each phase of the proposed project. Additionally, due to the unknown locations or depths of potentially significant archaeological resources, grading and excavation could directly or indirectly destroy any archeological resources. Therefore, MM-CUL-4 would ensure that any impacts associated with the unexpected discovery of archaeological resources would be reduced to a less-than-significant level. Thus, compliance with all applicable laws, ordinances, regulations, and standards, as well as MM-CUL-4, and impacts to archaeological resources would be reduced or avoided. Prior to mitigation, impacts to unknown archaeological resources would be potentially significant.

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

According to the Los Angeles Cultural Museum (LACM) Records Search (see Appendix D), there are no documented fossil localities within a one-mile radius of the OCC campus. However, the LACM does have a number of previously recorded fossil localities from Pleistocene age sedimentary deposits in the Costa Mesa Area (Appendix D), and these same age deposits underlie the project area at a shallow depth. A number of fossil collecting localities are known from older Quaternary deposits in Costa Mesa. These include LACM 1339, located due west of the Orange Coast College campus, east of the Santa Ana River channel along Adams Avenue. This locality produced fossil mammoth and camel bones in sand from approximately 15 feet below the mesa bluffs, just over 1.5 miles west of the campus. Another fossil locality, LACM 4219, located southeast of the campus, produced both fossil sea turtle and camel remains from sands 30 feet below the ground surface near Santa Isabel Avenue. Additional localities are documented further to the south in the Upper Newport Bay region of Orange County (see Appendix F).

Geologic units mapped at the surface beneath the OCC campus have a high paleontological sensitivity with respect to their potential to yield fossil remains (Appendix D). Construction activities for the proposed project have the potential to impact deeper sediments that may contain scientifically important fossil remains in areas where buried native sediments are disturbed. Because such a large portion of California is urbanized and covered by development or agriculturally disturbed, opportunities to collect new fossils and paleontological data from Pleistocene age sediments are largely restricted to construction projects that disturb these sediments and reveal the fossils that are preserved in them.

It is anticipated that construction activities that extend less than 5 feet below the ground surface would only impact artificial fill, topsoil, and/or the surface mapped younger Holocene age deposits mapped within the project area. Five feet is a typical interval utilized in construction operations and is a best estimate for avoiding monitoring of Holocene sediments. Excavations into undisturbed Pleistocene age deposits may unearth scientifically significant fossils at an indeterminate depth below the alluvial fan deposits during construction. Such disturbance should be monitored during construction in order to mitigate adverse impacts to scientifically significant paleontological resources (MM-CUL-5 and MM-CUL-6). All scientifically significant fossils salvaged from the project area will be permanently curated in an accredited regional museum where they will be available for future scientific research (MM-CUL-7). In the event that unexpected, intact paleontological resources are unearthed during construction, a potentially significant impact could occur. Therefore, compliance with all applicable rules, ordinances, and regulations, as well as implementation of mitigation measures (MM-CUL-5 through MM-CUL-7) listed below, potentially significant impacts to paleontological resources would be reduced to a less-than-significant level. Prior to mitigation, impacts to paleontological resources would be considered potentially significant.

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

There is no evidence of human remains on the project site and the potential for the inadvertent discovery of human remains on the project site is very low because there is no evidence of any historical camps or human settlement on the site. Additionally, existing regulations through California Health and Safety Code Section 7050.5 et seq. state that if human remains are discovered during project construction, no further disturbance shall occur until the Orange County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the County Coroner determines the remains to be Native American, the NAHC shall be contacted within a reasonable time. Subsequently, the NAHC shall identify the MLD. The MLD shall then make recommendations and engage in consultations concerning the treatment of the remains as provided in California Public Resources Code Section 5097.98. Given the very low potential for human remains on the project site and required compliance with existing regulations pertaining to the discovery of human remains, the proposed project would result in less–than-significant impacts to human remains.

4.4.5 Mitigation Measures

The following mitigation measures are recommended to reduce significant impacts to recorded historical resources, recorded archaeological resources, unrecorded subsurface archaeological resources, and unrecorded human remains within the project area.

MM-CUL-1 A Historic Structures Report shall be prepared prior to any alteration, relocation, or demolition of any contributing buildings, structures, objects, features, or landscape elements located within the identified OCC Historic District. The work shall be completed by a qualified historic preservation professional who meets the requirements of the U.S. Secretary of the Interior's Professional Qualifications for history, architectural history, or historic architecture. The report shall be prepared in a manner consistent with the recommended approaches outlined in the National Park Service *Preservation Brief 43: The Preparation and Use of Historic Structures Reports*. The report shall document the significance and physical condition of all contributing buildings, structures, objects, features, and landscape elements with photographs, text narrative, and existing drawings. This documentation shall include at a minimum:

- A written historic and descriptive report completed in narrative format, including an architectural data form for each contributing resource.

- A site plan showing the location of each building. This site plan shall include a photo key.
- A sketch floor plan shall accompany each architectural data form.
- Large format (4-inch x 5-inch or larger negative) photographs in accordance with Historic American Buildings Survey (HABS) guidelines and standards. Views shall include contextual views, all exterior elevations, details views of significant exterior architectural features, and interior views of significant historical architectural features or spaces.
- Field photographs (digital) based on HABS guidelines to ensure full documentation of the site. Views should correspond to and augment those in the large format photographs. Such photographs shall be logged, tagged, and collected onto a media storage device for safe archiving.
- Available historic photographs and historic and/or current as-built plans of the site and its contributing resources shall be reproduced digitally or photographically and included in the recordation document.

One original copy of the documentation as specified above shall be assembled and offered, and archived if accepted, to each of the following entities: Southern California Information Center at California State University, Fullerton; Los Angeles Conservancy; University of California, Irvine; City of Costa Mesa Public Library; The Huntington Library, Art Collections, and Botanical Gardens; Neutra Institute for Survival Through Design; Orange County Archives; and the Costa Mesa Historical Society.

MM-CUL-2 Prior to demolition of any contributing resources, including landscape elements, within the OCC Historic District, an inventory of significant exterior character-defining features, distinctive architectural elements, and materials shall be made by a qualified historic preservation professional who satisfies the U.S. Secretary of the Interior's Professional Qualifications for history, architectural history, or historic architecture. Where feasible these features shall be itemized, photographed, salvaged, and incorporated into the new design of the campus pursuant to the Vision 2020 Facilities Master Plan. To the extent salvageable materials exceed on-site reuse needs, they may be sold, donated, or exchanged for use elsewhere in the community. Unsound, decayed, or toxic materials (e.g., asbestos, etc.) need not be included in the salvage process. Some materials shall also be incorporated into an educational interpretive program as discussed as part of the following mitigation measure. Salvage efforts shall be documented by summarizing all measures taken to encourage receipt of salvaged materials by the public.

MM-CUL-3 To assist the students, faculty, parents, and other interested parties in understanding the early history of OCC, an interpretive multi-media educational program and 3-D public art display shall be incorporated into the development of the reconfigured campus quad area and/or campus library. This interpretive program and public art work shall be developed with the assistance of a qualified architectural historian or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualifications. Content and design of the interpretive program should be specific to OCC, specifically the architecture and historical development of the campus. The program/display may include but not be limited to: commemorative signage; plaques; enlarged and framed historic photographs; representative statues; salvaged materials; models; display of as-built plans and drawings; educational interactive CD software program; other relevant displays and exhibits; tours or events; and published information in the form of brochures, pamphlets, videos, electronic media, campus website, etc.

MM-CUL-4 If unexpected, potentially significant archaeological materials are encountered during construction, ground-disturbing activities shall be temporarily redirected or suspended until a qualified archaeologist is retained to evaluate the significance of the find. Unanticipated discoveries of significant cultural features would require handling in accordance with California Public Resources Code 5097.

MM-CUL-5 Paleontological monitoring of earthmoving activities below five feet (an arbitrary depth below which Holocene age sediments are anticipated) will be conducted on an as-needed basis by the paleontological monitors under the supervision of an Orange County Qualified Paleontologist (principal investigator) during all earthmoving activities that may expose sensitive strata. If fossils are unearthed at a shallower depth, the monitoring program should be adjusted accordingly. Earthmoving activities in areas of the project area where previously undisturbed strata will be buried but not otherwise disturbed will not be monitored. The Principal Investigator or his/her assignee will have the authority to reduce monitoring once he/she determines the probability of unearthing fossils is lower than anticipated. If the excavations in undisturbed sediments will exceed five feet in depth, a qualified paleontological monitor should be present to observe earthmoving activities in these areas. Five feet is the general dividing point in this area after which monitoring should be initiated in sediments of high sensitivity, as determined by mapping, and in compliance with County of Orange guidelines. In areas of disturbed sediments on campus, a paleontological monitor should spot-check construction activities until such a time that it becomes possible to determine the depth of undisturbed native sediments or that no undisturbed sediments have been or will be impacted. Monitoring during any brushing or vegetation removal activities in artificial fill is not recommended.

MM-CUL-6 If any subsurface fossils are found by construction personnel, activity in the immediate area should be suspended and the fossils should be left in place untouched. A qualified paleontologist should then evaluate the significance of the discovery and make further recommendations. Fossils that are considered unique under CEQA guidelines, Section V(c) of Appendix G (CEQA; California Public Resources Code, Section 21000 et seq.) should be collected, prepared, analyzed, reported, and curated.

MM-CUL-7 If a fossil is discovered by a monitor during construction, the monitor must immediately notify the equipment operator and the construction manager to stop work, and then delineate the discovery area with flagging until it can be fully explored and evaluated. The paleontological monitor shall immediately notify the construction manager and the Principal Investigator. Construction activities in the immediate vicinity of the project area shall be immediately redirected away from the vicinity of the discovery to allow room for the recovery of the resources as necessary. Earthmoving will be allowed to proceed within the discovery site when the principal investigator determines the fossil discovery has been adequately documented and recovered.

MM-CUL-8 All scientifically significant fossils collected during monitoring and salvage should be cleaned, repaired, sorted, and cataloged as part of the mitigation program. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, should be reposited (as a donation) at the John D. Cooper Archaeological and Paleontological Center at California State University, Fullerton. Donation of the fossils should be accompanied by financial support for initial specimen storage. A final summary report should be completed that outlines the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

4.4.6 Level of Significance After Mitigation

Mitigation measures listed in Section 4.4.5 would reduce potential impacts to historical, archaeological, and paleontological resources to a less-than-significant level. However, under CEQA, the mitigation measures required herein would reduce, but not eliminate the significant impacts of the proposed project to the identified historic district and its contributing resources. The substantial demolition of the buildings, structures, objects, features, and landscape elements that comprise the OCC Historic District would result in a substantial adverse change to the historic property (the historic district) and the environment. The impact to the OCC Historic District cannot be mitigated to a less-than-significant level. Nevertheless, the measures outlined for documentation of the District, the salvage and reuse of significant character-defining features, and the development of an interpretative educational program(s) are important to assure that information regarding the historical development of the college campus, its association with master architect Richard Neutra, and its physical manifestation of Modern style educational facilities are documented, retained, archived, and promoted. The impact to historic resources remains significant and unavoidable.

4.4.7 Cumulative Impacts

Cumulative impacts on cultural resources evaluate whether impacts of the proposed project and related projects, when taken as a whole, substantially diminish the number of historical or archeological resources within the same or similar context or property type. As discussed throughout this section, the proposed project could have potentially significant impacts to unknown archaeological resources, and mitigation would be required to reduce adverse impacts to less than significant. It is anticipated that cultural resources that are potentially affected by related projects would also be subject to the same requirements of CEQA as the proposed project and mitigate for their impacts, if applicable. However, the proposed project would have potentially significant and unmitigable impacts on the identified historic district and its contributing resources. The impact to the OCC Historic District cannot be mitigated to a less-than-significant level. In the event that related projects would also result in potentially significant and unmitigable impacts to historical resources, then the proposed project would contribute cumulatively considerable impacts. These determinations would be made on a case-by-case basis, and the effects of cumulative development on cultural resources would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements. Therefore, the proposed project would contribute to a cumulatively considerable impact associated with cultural resources due to the fact that demolition or removal of any historically designated building would impact the potential historic district.

4.4.8 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

16 U.S.C. 470 et seq. National Historic Preservation Act.

36 FR 8921. Executive Order 11593 of May 13, 1971: "Protection and Enhancement of the Cultural Environment."

California Health and Safety Code, Section 7050.5–7055. Division 7: Dead Bodies; Part 1: General Provisions; Chapter 2: General Provisions.

California Public Resources Code, Section 21000–21177. California Environmental Quality Act (CEQA), as amended.

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County of Orange. 2005. "Figure IV-9" in *County of Orange General Plan – Historic and Cultural Resources Element*. http://ocplanning.net/planning/generalplan2005.

Dudek. 2013. Negative Phase I Findings for the CCCD Vision 2020 Plan, Orange Coast College Project, Orange County, CA. October 23, 2013.

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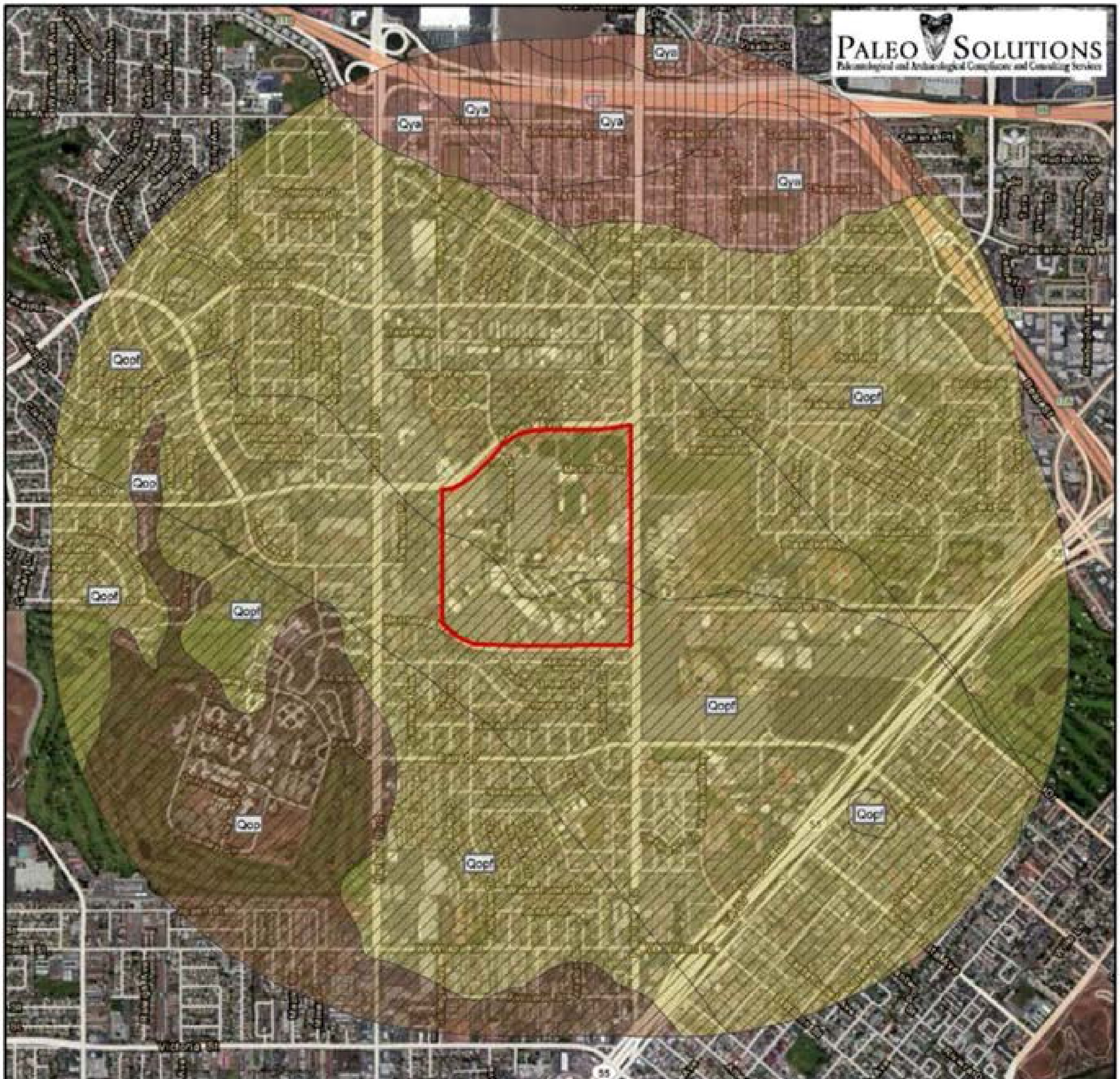
PaleoSolutions, Inc. 2013. Paleontological Resource Survey Orange Coast College City of Costa Mesa, Orange County, California. December 2, 2013.



Orange Coast College: Paleontological Context

0 | 0.5 | 1 Miles

Project boundary

Paleosensitivity

Low

Moderate

Geologic Context (Morton etal. 2006)

Qya: Young axial-channel deposits (Holocene)

Qyf: Young alluvial-fan deposits (Holocene)

Qop: Old paralic deposits, undivided (Pleistocene)

Qopf: Old paralic deposits overlain by alluvial-fan deposits (Pleistocene)

Qvof: Very old alluvial-fan deposits (Pleistocene)

USGS Quads:
Newport Beach 7.5' series
Aerial and transportation base layer from:
ESRI Online

Geology from:
Preliminary Geologic Map of the Santa Ana 30' x 60' Quad
By D. M. Morton and Miller, F. K., 2006

One to 24,000 scale map

N

SOURCE: Paleo Solutions

FIGURE 4.4-1
Paleontological Context

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Project Boundary

OCC Historic District

Athletic Facilities

Campus Core

Historic Contributors

Contributor

Non-Contributor

Buildings

1, Administration
2, Drama Lab/Studio
4, Music
5, Fire Arts Lecture Halls
7, Student Success Center
8, Classroom and Lab
9, Classrooms and Labs
10, Disabled Student Center
11, Faculty House
12-13, Business Education
14, Business, Computing and Career Services Division
35-38, Math Wing
39, Planetarium
40, Science Hall
41, Math Lecture Halls 1 & 2
42, Lewis Center for Applied Sciences
43, Consumer and Health Sciences Division
44, Allied Health Sciences
45, Biological Sciences
47, Welding Technology and Skills Center
48, Aviation Technology and Skills Center
64, Horticulture
69, Chemistry
70, Literature and Languages
71, Writers Row
72, Journalism
73, Computing Center
80, Social and Behavioral Sciences
81, Forum Lecture Hall (Giles Brown)
83, Bookstore and Warehouse
86, Student Center
87, Student Records (Watson Hall)
89, Student Health Center
91, Athletics
92, Women's Locker Room
93, Pool Stadium
96, Men's Locker Room
97, Handball Courts
105, Stadium
110, Field House
114, Technology Division
115, Technology Annex
116, Construction Technology
144, Bookstore and Warehouse
146, Early Chilhood Lab School
147, Campus Public Safety (Parking)
149, Brusar's Office
150, Classrooms and Labs
152, Children's Center
155, Maintenance and Operations
156, Information Technology
157, Weight Room
158, Arts Center
171-172, Technology Center
180, Frank M. Doyle Arts Pavilion
181, Starbucks
182, Library
183, Fitness Complex

N

0 155 310 Feet

SOURCE: ESRI, 2013; Coast Community College Vision Plan, 2012; County of Orange.

7910

FIGURE 4.4-2

OCC Historic District

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4.5 GEOLOGY AND SOILS

This section evaluates the direct, indirect, short-term, and long-term effects of the proposed Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project) on geology, soils, and exposure to geologic hazards. The evaluation is based in part on review of various geologic maps and reports from the U.S. Geological Survey (USGS), the California Geological Survey (CGS), the U.S. Department of Agriculture (USDA), and the City of Costa Mesa General Plan. If project impacts are determined to be significant or potentially significant, mitigation measures to avoid or reduce those impacts are identified.

4.5.1 Existing Conditions

The project area is located within California's Peninsular Ranges Geomorphic Province, represented by a series of ranges separated by northwest-trending valleys, subparallel to faults branching out from the San Andreas Fault (CGS 2002). The trend of topography is similar to the Coast Ranges, but the geology is more like the Sierra Nevada, with granitic rock intruding older metamorphic rocks. The Peninsular Ranges extend into lower California and are bound on the east by the Colorado Desert. On the west, the province includes the Los Angeles Basin, its marine shelf, and the Catalina Islands. Major faults in the province are the Cucamonga, San Jacinto, and San Andreas faults.

Local Geology and Soils

The project site is within the Newport Beach 7.5-minute quadrangle, whose geology has been mapped at various scales and extents over the years by numerous authors. In the official seismic hazard zone report for the Anaheim and Newport Beach quadrangles, the CGS (formerly the California Division of Mines and Geology) compiled geologic mapping within the quadrangle and reported on the liquefaction potential and the landslide potential of various geologic units within the study area (CDMG 1997). According to the seismic hazard zone report, the project site is located within late Pleistocene terrace deposits.

Costa Mesa, including OCC, is primarily on an uplifted mesa (Newport Mesa) bounded on the west, south, and east by steep cliffs. Newport Mesa slopes gently northward from an elevation of 80 to 110 feet above sea level at the southern crest of the mesa to less than 40 feet above sea level at the northern boundary of the City of Costa Mesa. Newport Mesa is the most southerly of a series of discontinuous low hills and plains that extend along the Newport–Inglewood structural zone from the Santa Monica Mountains southeast to Newport Beach. These topographic features are inferred from both the physiographic and stratigraphic evidence to be essentially contemporaneous segments of the Sangamon-age (120,000 years before the present) deformed lower terrace of the Palos Verdes Hills.

According to the USDA soil survey, the predominant soil unit mapped on the site—over 80%—is cropley clay (2%–9% slopes); about 18% of the site is underlain by the myford sandy loam (USDA 2013). The soils on site, and their characteristics, are shown in Table 4.5-1. Soil type is generally clayey, with the northern part of the campus being underlain more by sandy loam. The actual structural foundations for buildings, parking lots and other structures on campus are underlain by a combination of engineered fills and non-engineered fill, depending on when and how the structure was constructed.

Table 4.5-1
Soil Types Underlying the Orange Coast College Campus

Soil Type	Acres within OCC	Drainage Class	Shrink/ Swell Potential	Risk of Corrosion[1] (concrete / uncoated steel)	Hydrologic Soil Group[2] / Erosion Factor (Kf)[3]
Cropley clay, 2% to 9% slopes	130 (82%)	Well drained	High	Low/low	D / 0.17
Myford sandy loam, 2% to 9% slopes	1 (<1%)	Moderately well drained	Low to high (varies)	Low/low	D / 0.43
Myford sandy loam, thick surface, 0% to 2% slopes	29 (18%)	Moderately well drained	Low to high (varies)	Low/high	D / 0.43

[1] "Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete.
[2] Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups (A through D) according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Soils in Group B have a moderate infiltration rate and a moderate rate of water transmission. Soils in Group C have a slow infiltration and transmission rates and consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. Soils in Group D have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.
[3] Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.
Source: USDA 2013

Faults and Seismic Hazards

The faulting and seismicity of Southern California is dominated by the San Andreas Fault System. The zone separates two of the major tectonic plates that comprise the Earth's crust. The Pacific Plate lies west of the fault zone. This plate is moving in a northwesterly direction relative to the North American Plate, which lies east of the fault zone. The relative movement between the two plates is the driving force of fault ruptures in western California. The San Andreas Fault System generally trends northwest–southeast; however, on the northern border of the Transverse Ranges Province, the fault trends more in an east–west direction, causing a north–south compression between the two plates. North–south compression in Southern California has been estimated from 5 to 20 millimeters per year. This compression has produced rapid uplift of many of the mountain ranges in Southern California and is responsible for most of the seismic activity in the region (City of Newport Beach 2006).

There are numerous faults in Southern California that are categorized by the CGS as active, potentially active, and inactive. A fault is classified as active by the state if it has moved during the Holocene epoch (during the last 11,000 years) or is included in an Alquist-Priolo Earthquake Fault Zone (as established by the CGS). A fault is classified as potentially active if it has experienced movement during the Quaternary period (the last 1.6 million years). Faults that have not moved in the last 1.6 million years generally are considered inactive. Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts.

The highest seismic risk to the proposed project site originates from the Newport–Inglewood fault zone, the Whittier fault zone, the San Joaquin Hills fault zone, and the Elysian Park fault zone, each with the potential to cause moderate to large earthquakes that would cause ground shaking in Costa Mesa and nearby communities. The Newport–Inglewood fault, which is an earthquake fault zone (as defined under the Alquist-Priolo Earthquake Fault Zoning Act), is located on the western edge of Costa Mesa approximately 3.7 miles west-southwest of the proposed project site (CDMG 1986; Treiman and Lundberg 1999). However, neither the Newport–Inglewood Fault or any other known fault lines cross the proposed project area, which means that fault rupture (i.e., along the trace of a fault line) would not occur on the site (USGS and CGS 2008). Regardless, an earthquake on any of these faults could cause both ground-shaking effects and possibly liquefaction at the proposed project site.

According to earthquake probability mapping conducted by the USGS (2008), there is a 25%–30% probability of an earthquake occurring with a magnitude greater than 6.7 in the next 50 years within 50 kilometers (31 miles) of OCC. The probability decreases to 12%–15% for an earthquake greater than magnitude 7.0 (USGS 2008). These probabilistic ground motion values are in the high to very high range for Southern California and are the result of proximity to major fault systems with high earthquake recurrence rates. These levels of shaking can be expected to cause damage, particularly to older and poorly constructed buildings; they could also cause damage to utility infrastructure.

Liquefaction and slope failure are destructive secondary effects of strong seismic shaking. Because the site is nearly flat-lying, slope failure is not considered a potential hazard at the proposed project site (CDMG 1997). In addition, due to flat topography, the nature of the geologic materials underlying the site, as well as the absence of a shallow groundwater table, the site is neither susceptible to liquefaction nor earthquake-induced landslides (CDMG 1997). The City of Costa Mesa General Plan corroborates this information; it identifies the proposed project as being in an area with a low liquefaction potential (City of Costa Mesa 2002).

Soil Conditions

Differential Compaction or Settlement

Differential ground settlement resulting from earthquake ground shaking is potentially damaging to structures and buried utilities and services. Differential settlement may occur in cohesionless sediments where differences in densities in adjacent materials lead to different degrees of compaction during ground shaking. In the case of saturated cohesionless sediments, post-earthquake settlement may occur when excess pore-water pressures generated by the earthquake dissipate. For soft, saturated cohesive soils such as the known peat deposits within Costa Mesa—but that do not underlie the project site—post-earthquake differential settlement may also occur (USDA 2013; City of Costa Mesa 2002). Consolidation of soils and differential settlement can occur under the weight of a building or structure over the long term, even in the absence of earthquakes. Whereas differential settlement is a potential hazard in Costa Mesa, the significance of the hazard at any particular site may only be determined by soils investigations.

Expansive Soils

Some of the geologic units in the project area, including both surficial soils and bedrock, have fine-grained components that are moderate to highly expansive. These materials may be present at the surface or exposed by grading activities. Man-made fills can also be expansive, depending on the soils used to construct them. According to the USDA, the shrink/swell potential of a soil is low if the soil has a linear extensibility of less than 3%; moderate if 3% to 6%; high if 6% to 9%; and very high if more than 9% (USDA 2013). If the linear extensibility is more than 3%, shrinking and swelling can cause damage to buildings, roads, and other structures, as well as plant roots, and import of non-expansive fill or other special designs may be needed. As shown in Table 4.5-1, the majority of soils underlying the project site are estimated to have a high linear extensibility.

Subsidence

Regional land subsidence is the condition where the elevation of a land surface decreases due to the large-scale withdrawal of fluid (e.g., oil or groundwater). The location of major oil drilling areas and state-designated oil fields are areas with subsidence potential in the region. However, according to the Costa Mesa General Plan, the site is not within an area that has been impacted by long-term subsidence due to local oil extraction (City of Costa Mesa 2002). Localized subsidence or settlement can also occur in weak saturated soils with a high plasticity, or peat deposits. Although the site is underlain by clayey soil, it is not expected to be prone to high rates of settlement because the soils are not weak or saturated like peat deposits or estuarine soils would be.

4.5.2 Regulatory Setting

Federal

Occupational Safety and Health Administration Regulations

Excavation and trenching are among the most hazardous construction activities. The Occupational Safety and Health Administration's (OSHA's) Excavation and Trenching standard, Title 29 of the Code of Federal Regulations, Part 1926.650, covers requirements for excavation and trenching operations. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

State

The statewide minimum public safety standard for mitigation of earthquake hazards (as established through the California Building Code (CBC), Alquist-Priolo Earthquake Fault Zoning Act, and the Seismic Hazards Mapping Act) is that the minimum level of mitigation for a project should reduce the risk of ground failure during an earthquake to a level that does not cause the collapse of buildings for human occupancy, but in most cases, is not required to prevent or avoid the ground failure itself.

California Building Code

The CBC has been codified in the California Code of Regulations as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 to be enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California. The CBC, Section 1803A (1802A in the 2007 CBC), describes requirements for engineering geologic reports, supplemental ground-response reports, and geotechnical reports. In the case of structures proposed by the Coast Community College District (District), it is the California Department of General Services, Division of State Architect (DSA), that enforces building standards and geologic hazard requirements, as further discussed below.

Alquist-Priolo Earthquake Fault Zoning Act

Surface rupture is the most easily avoided seismic hazard. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the state geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for ground-surface rupture along any of the branches. The proposed project is not subject to this act because it is not within an earthquake fault zone.

Seismic Hazards Mapping Act

The CGS provides guidance with regard to seismic hazards. Under the CGS Seismic Hazards Mapping Act, seismic hazard zones are to be identified and mapped to assist local governments for planning and development purposes. The intent of the act is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other types of ground failure, as well as other hazards caused by earthquakes. CGS Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, provides guidance for evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations (CGS 2008). However, because proposed structures would not be located within a liquefaction or landslide hazard zone (i.e., zone of required investigation), the act would not specifically apply to the project.

Division of State Architect

For public schools and State Essential Services Buildings, the California Department of General Services, DSA, has jurisdiction over all aspects of construction (including access compliance), to ensure that plans, specifications, and construction activities comply with the CBC. The California DSA reviews and approves public school plans before issuing building permits and ensures project compliance with the CBC, the Field Act, and other applicable geologic hazard regulations.

The Field Act (California Education Code, Sections 17280–17317 and 80030–81149) was established following a 6.3-magnitude Long Beach earthquake on March 10, 1933, in which more than 230 school buildings were either destroyed, suffered major damage, or were judged unsafe to occupy. The Field Act established seismic design standards, plan review processes, construction inspections, and special tests for public schools in California. Normally, local building departments enforce the CBC in addition to any other local or state provisions. The generally good performance in earthquakes of most buildings constructed since 1933 shows that local building departments are enforcing the Uniform Building Code, which is aimed at mitigating seismic hazards in general. The provisions of the Field Act, however, go beyond the requirements of the Uniform Building Code, requiring stricter seismic design standards.

The DSA published an Interpretation of Regulations (IR) document that explains acceptable methods for achieving compliance with building codes and regulations. For example, IR A-4 details geologic hazard studies for schools; IR A-9 describes school site improvements for school building projects; IR 16-3 details earth retaining systems; and IR 18-1 describes use of controlled low-strength material as controlled fill. The District will be required to send all required engineering geology and geotechnical reports to the CGS to review the reports for compliance with state geologic hazard regulations (i.e., Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act, described above). Final DSA approval of the proposed project will not occur unless DSA receives the final acceptance letter from CGS.

4.5.3 Thresholds of Significance

The significance criteria used to evaluate the proposed project's impacts to geology and soils are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G, a significant impact related to geology and soils would occur if the project would:

1. ***Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:***
    a. ***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 based on other substantial evidence of as known fault. Refer to Division of Mines and Geology Special Publication 42.***
    b. ***Strong seismic ground shaking.***
    c. ***Seismic-related ground failure, including liquefaction.***
    d. ***Landslides.***
2. ***Result in substantial soil erosion or the loss of topsoil.***
3. ***Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.***
4. ***Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.***
5. ***Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.***

The Initial Study eliminated Threshold 5 from further analysis because there are no septic tanks or alternative waste water disposal systems in use on campus. The campus is connected to the public sewer system.

4.5.4 Impacts Analysis

Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of as known fault. (Refer to Division of Mines and Geology Special Publication 42); strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides?

The project site is likely to experience at least one major earthquake in the foreseeable future; the intensity of such an event would depend on the causative fault and the distance to the epicenter, the moment magnitude, and the duration of shaking. Ground shaking from distant seismic events (greater than 40 miles) would be of a different nature than events within 10 miles of Costa Mesa. For more distant, large (greater than 7.5 magnitude) events such as those that occur on the San Andreas Fault, the ground shaking would reflect a predominance of long-period waves. This would have minimal effects on structures less than three stories in height, but would affect flexible structures (typically high-rise buildings greater than three stories), especially if the natural period of the building should coincide with that of the long-period earthquake waves. The resultant amplifications of motions could result in serious damage to high-rise structures. Short-period waves, however, are generally very destructive near the epicenter of moderate- and large-magnitude seismic events, causing severe damage predominately to low-rise rigid structures (less than three stories) not specifically designed to resist them (City of Costa Mesa 2002). As described in Section 4.5.1, there is a 25%–30% probability of an earthquake occurring with a magnitude greater than 6.7 in the next 50 years within 50 kilometers (31 miles) of OCC (on any of the faults capable of producing such an earthquake).

As discussed in Section 4.5.1, the absence of on-site fault traces, the flat-lying nature of the project site, and the character of underlying soils mean that the potential for secondary earthquake-related ground failure is minimal. This would include earthquake-induced liquefaction, landslides, and fault-rupture. No element of the proposed project could affect the timing, probability, or duration of an earthquake, or increase the severity of ground shaking or ground-shaking effects that would occur. Thus, the potential impact of the project would be limited to a potential for an increase in public exposure (through construction of classrooms and additional student housing) to high levels of ground shaking during an earthquake.

However, this potential impact would be minimal because numerous laws, policies, and building standards are in place that impose stringent seismic safety requirements on the design and construction of new structures, especially construction undertaken by public school districts. All buildings in California are subject to the standards in the CBC, which requires engineers to develop seismic design criteria that reflect the nature and magnitude of maximum ground motions that can be reasonably expected. These seismic design criteria allow engineers to apply appropriate building codes and design structures to withstand the effects of earthquakes. For public school districts specifically, the California Department of General Services, DSA, has jurisdiction over all aspects of construction (including access compliance), to ensure that plans, specifications, and construction activities comply with the CBC.

The CGS serves as an advisor under contract with the DSA to review engineering geology and seismology reports for compliance with state geologic hazard regulations. The District will be required to send all engineering, geotechnical, and soils reports normally required to comply with the CBC to the CGS to ensure such reports also comply with applicable geologic hazard regulations (i.e., the Field Act and the Seismic Hazards Mapping Act, described in Section 4.5.2). CGS (2013) has outlined the required scope of geology, seismology, and geologic hazards evaluations under Title 24 of the California Code of Regulations. Among other things, the report(s) must be prepared by appropriately licensed professionals and must include adequate site characterization, estimates of earthquake ground motions, assessment of liquefaction/settlement potential, slope stability analysis, identification of adverse soil conditions (e.g., expansive or corrosive soils), and mitigation recommendations for all identified issues. Final DSA approval of the proposed project will not occur unless DSA receives the final acceptance letter from CGS.

The projects contemplated in the Vision 2020 Facilities Master Plan would not be approved or built without adequately demonstrating to DSA and CGS their compliance with the CBC and applicable geologic hazards regulations. For this reason, the proposed project would be designed and built in a manner that would reduce to acceptable levels public exposure to geologic risks, and the potential impacts of the proposed project would be less than significant.

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

Because the proposed project site is already developed and not located in sloped areas, the potential for substantial soil erosion or significant loss of topsoil is generally low. Section 4.8, Hydrology and Water Quality—which addresses soil erosion and sedimentation in greater detail from a water quality perspective—found the potential impacts to be less than significant. Because the analysis and conclusions located therein would be equally applicable to this criterion, the projects contemplated in the Vision 2020 Facilities Master Plan would have less-than-significant impacts with respect to substantial soil erosion or significant loss of topsoil.

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

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

As discussed in Section 4.5.1, soils within the project site could be prone to a variety of instabilities, including shrink/swell, differential settlement, or other instabilities that could only be determined precisely through site-specific soil testing. The available information indicates the site has a low potential for landslide or liquefaction hazards. However, if unstable soils and/or other geologic hazards are not taken into consideration in construction site preparation activities (e.g., grading) and in the design of proposed structures, unstable soils could have potentially significant impacts on the structural components of the project. Improperly designed structures could be subject, in the long term, to damage or distress as a result of adverse soil conditions, resulting in the need for frequent and potentially costly repairs, and in severe cases, could represent a public safety issue. Although soil settlement and/or corrosion causes deterioration to plumbing, pipelines, and foundations in a slow, incremental manner, unexpected or sudden utility line breaks or other structural failures could occur as result, or be more likely to occur in the event of an earthquake.

Shrink/swelling of soil, differential settlement potential, and high corrosion risks are common geotechnical issues in California, particularly within clay-rich residual soils, hydric soils, and wetland/estuarine peat/mud deposits. Standard engineering practices have been developed to effectively address such concerns. Commonly employed solutions include over-excavation and replacement with engineered fills, lime treatment, moisture conditioning, proper compaction of base and sub-base soils, use of appropriate constructions materials, and appropriate selection and design of foundations, among others. As discussed previously, projects contemplated in the Vision 2020 Facilities Master Plan would not be approved or built without adequately demonstrating to DSA and CGS their compliance with the CBC and applicable geologic hazards regulations. Geotechnical recommendation—likely similar to the common solutions previously described (as appropriate)—would be included as part of project designs and construction plans to protect facilities for unstable or expansive soils.

For these reasons, the potential impact of the proposed project with respect to expansive or otherwise unstable soils would be less than significant.

4.5.5 Mitigation Measures

None required.

4.5.6 Level of Significance After Mitigation

Not applicable.

4.5.7 Cumulative Impacts

The geographic extent considered for potential cumulative impacts to people and structures related to geologic and seismic hazards is more localized or site-specific. As analyzed above, the project would experience less-than-significant impacts related to all issue areas. Impacts related to earthquakes and adverse soil conditions are less than significant as a result of the required compliance with applicable building codes and geologic hazard regulations. Geologic/soil issues relate to local, site-specific soil conditions, ground response to earthquakes, and the potential for adverse soil conditions to damage the proposed project's structural components. Although impacts identified as less than significant can compound to generate a significant cumulative impact, the geology and soils impacts of the proposed project are not cumulative in nature because of their localized nature. The only projects in the cumulative scenario that would contribute to or compound the identified impacts would be those that are overlapping or adjacent to the proposed project. Such projects would likewise be subject to the CBC, geologic hazard regulations as applicable, and would thus be designed and constructed to avoid substantial adverse impacts with respect to geology, soils, or seismic hazards. For this reason, the cumulative impacts with respect to geologic and seismic hazards would be less than significant.

4.5.8 References

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4.6 GREENHOUSE GAS EMISSIONS

This section evaluates short-term (construction) and long-term (operational) impacts related to greenhouse gas (GHG) emissions and climate change that would potentially occur as a result of implementation of the proposed Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project). Applicable laws, regulations, standards enacted by the federal and state governments, and thresholds of significance used in this analysis are provided in Section 4.6.2, Existing Conditions, and Section 4.6.3, Thresholds of Significance, respectively. Emissions associated with the proposed project were calculated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2 (available online at www.caleemod.com), and are discussed in Section 4.6.4, Impacts Analysis.

4.6.1 Methodology

Sources of GHG emissions that would result from implementation under the proposed project would include emissions from motor vehicles calculated using the CalEEMod, estimates from which are partially based on information derived from the traffic impact analysis report prepared by Linscott, Law and Greenspan (Appendix G; LLG 2015). Emissions from area sources such as natural gas usage for water and space heating were calculated using CalEEMod. Historical energy usage data from the campus were used to provide improved estimates of combustion-rated emissions and those associated with electricity usage. Emissions from other mobile sources, such as construction equipment, were estimated using CalEEMod default equipment fleet assumptions based on the expected construction methods that would be employed during demolition and development associated with the proposed project. GHG emissions estimates were then compared against thresholds to determine project impacts.

Neither the State of California nor the South Coast Air Quality Management District (SCAQMD) has adopted emission-based thresholds for GHG emissions under the California Environmental Quality Act (CEQA). The Governor's Office of Planning and Research's (OPR's) Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review* states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, Section 15064.4(a) of the CEQA Guidelines, as amended in 2009, states that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project" (14 CCR 15000 et seq.). Section 15064.4(a) further notes that an agency may identify emissions either by selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards." Section 15064.4(b) provides that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

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

4.6.2 Existing Conditions

4.6.2.1 The Greenhouse Effect and Greenhouse Gases

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind, lasting for an extended period (decades or longer). Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). The "greenhouse effect" describes the trapping of heat in the troposphere. The greenhouse effect occurs through a threefold process: short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and back toward the Earth. This trapping of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and water vapor (H_2O). Some GHGs, such as CO_2, CH_4, and N_2O, can occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely byproducts of fossil-fuel combustion, whereas CH_4 results mostly from off-gassing associated with agricultural practices and landfills. Man-made GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3), which are associated with certain industrial products and processes (CAT 2006).

The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Without it, the temperature of the Earth would be about 0 degrees Fahrenheit (°F) (−18 degrees Celsius (°C)) instead of its current 57°F (14°C). Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect.

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP). The GWP varies between GHGs; for example, the GWP of CH_4 is 21, and the GWP of N_2O is 310. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG gas emissions are typically measured in terms of pounds or tons of CO_2 equivalent (CO_2E).[1]

4.6.2.2 Contributions to Greenhouse Gas Emissions

In 2012, the United States produced 6,525 million metric tons (MMT) of CO_2E (EPA 2014). The primary GHG emitted by human activities in the United States was CO_2, representing approximately 82.5% of total GHG emissions. The largest source of CO_2 and of overall GHG emissions was fossil-fuel combustion, which accounted for approximately 94.2% of the CO_2 emissions.

According to the 2012 GHG inventory data compiled by the California Air Resources Board (CARB) for the California Greenhouse Gas Inventory for 2000–2012, California emitted 459 MMT CO_2E of GHGs, including emissions resulting from out-of-state electrical generation (CARB 2014a). The primary contributors to GHG emissions in California are transportation, industry, electric power production from both in-state and out-of-state sources, agriculture, and other sources, which include commercial and residential activities. These primary contributors to California's GHG emissions and their relative contributions in 2012 are presented in Table 4.6-1, GHG Sources in California.

Table 4.6-1
GHG Sources in California

Source Category	Annual GHG Emissions (MMT CO_2E)	% of Total[a]
Agriculture	37.86	8.3%
Commercial uses	14.20	3.1%
Electricity generation	95.09[b]	20.7%
Industrial uses	89.16	19.4%
Recycling and waste	8.49	1.9%
Residential uses	28.09	6.1%
Transportation	167.38	36.5%
High GWP substances	18.41	4.0%
Totals[c]	**458.68**	**100%**

Source: CARB 2014a.
[a] Percentage of total has been rounded.
[b] Includes emissions associated with imported electricity, which account for 44.07 MMT CO_2E annually.
[c] Totals may not sum due to rounding.
GHG = greenhouse gas; MMT CO_2E = million metric tons of carbon dioxide equivalent; GWP = global warming potential

[1] The CO_2 equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons of CO_2E = (metric tons (MT) of a GHG) × (GWP of the GHG). For example, the GWP for CH_4 is 21. This means that emissions of 1 MT of CH_4 are equivalent to emissions of 21 MT of CO_2.

4.6.2.3 Potential Effects of Human Activity on Climate Change

Globally, climate change has the potential to impact numerous environmental resources though uncertain impacts related to future air temperatures and precipitation patterns. In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (CCCC 2006). The primary effect of global climate change has been a rise in average global tropospheric temperature of 0.2°C per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place, including substantial ice loss in the Arctic (IPCC 2007).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. Climate change is already affecting California: average temperatures have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling in the form of snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010a). Climate change modeling using emission rates from 2000 shows that further warming would occur, which would induce further changes in the global climate system during the current century. Changes to the global climate system and ecosystems and to California would include, but would not be limited to, the following:

- The loss of sea ice and mountain snowpack, resulting in higher sea levels and higher sea surface evaporation rates, with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures (IPCC 2007)
- A rise in global average sea level, primarily due to thermal expansion and melting of glaciers and ice caps and the Greenland and Antarctic ice sheets (IPCC 2007)
- Changes in weather that include widespread changes in precipitation, ocean salinity, and wind patterns; and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and intensity of tropical cyclones (IPCC 2007)
- A decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California, by 30% to as much as 90% over the next 100 years (CAT 2006)
- An increase in the number of days conducive to O_3 formation by 25% to 85% (depending on the future temperature scenario) in high-O_3 areas of Los Angeles and the San Joaquin Valley by the end of the twenty-first century (CAT 2006)
- A high potential for erosion of California's coastlines and seawater intrusion into the delta and levee systems due to the rise in sea level (CAT 2006).

4.6.2.4 Relevant Plans, Policies, and Ordinances

Federal

Massachusetts v. U.S. Environmental Protection Agency

On April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency*, the U.S. Supreme Court directed the U.S. Environmental Protection Agency (EPA) administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
- The administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act

On December 19, 2007, President George W. Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the act would do the following, which would aid in the reduction of national GHG emissions:

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022
2. Set a target of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020 and direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks
3. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

EPA and NHTSA Joint Final Rule for Vehicle Standards

On April 1, 2010, the EPA and NHTSA announced a joint final rule to establish a national program consisting of new standards for light-duty vehicles model years 2012 through 2016 (EPA 2010). The joint rule is intended to reduce GHG emissions and improve fuel economy. The EPA approved the first-ever national GHG emissions standards under the Clean Air Act, and NHTSA approved Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act (75 FR 25324–25728). The final rule became effective on July 6, 2010.

The EPA's GHG standards require new passenger cars, light-duty trucks, and medium-duty passenger vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile in model year 2016, equivalent to 35.5 mpg if the automotive industry were to meet this CO_2 level through fuel economy improvements alone. The CAFE standards for passenger cars and light trucks will be phased in between 2012 and 2016, with the final standards equivalent to 37.8 mpg for passenger cars and 28.8 mpg for light trucks, resulting in an estimated combined average of 34.1 mpg (75 FR 25324–25728). The rules will simultaneously reduce GHG emissions, improve energy security, increase fuel savings, and provide clarity and predictability for manufacturers.

In August 2012, the EPA and NHTSA approved a second round of GHG and CAFE standards for model years 2017 and beyond (77 FR 62624–63200). These standards will reduce motor vehicle GHG emissions to 163 grams of CO_2 per mile, which is equivalent to 54.5 mpg if this level were achieved solely through improvements in fuel efficiency, for cars and light-duty trucks by model year 2025. A portion of these improvements, however, will likely be made through reductions in air conditioning leakage and through use of alternative refrigerants, which would not contribute to fuel economy. The regulations also include targeted incentives to encourage early adoption and introduction into the marketplace of advanced technologies to dramatically improve vehicle performance, including the following:

- Incentives for electric vehicles, plug-in hybrid electric vehicles, and fuel-cell vehicles
- Incentives for hybrid technologies for large pickup trucks and for other technologies that achieve high fuel economy levels on large pickup trucks
- Incentives for natural gas vehicles
- Credits for technologies with potential to achieve real-world GHG reductions and fuel economy improvements that are not captured by the standard test procedures.

State

Title 24

Title 24 of the California Code of Regulations was established in 1978, and serves to enhance and regulate California's building standards.

While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes energy efficiency standards for residential and non-residential buildings constructed in the State of California in order to reduce energy demand and consumption. Part 6 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. The most recent amendments, referred to as the 2013 standards, will become effective on July 1, 2014. Building constructed in accordance with the 2013 standards will use 25% less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 standards. Additionally, the standards will save 200 million gallons of water per year and avoid 170,500 tons of GHG emissions per year (CEC 2012).

Title 24 also includes Part 11, known as California's Green Building Standards (CALGreen). The CALGreen standards took effect in January 2011, and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- A 20% mandatory reduction in indoor water use
- Diversion of 50% of construction and demolition waste from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particleboard.

California's Green Building Standards also include voluntary efficiency measures that are provided at two separate tiers and implemented per the discretion of local agencies and applicants.

Assembly Bill 1493

In response to the transportation sector accounting for more than half of California's CO_2 emissions, Assembly Bill (AB) 1493 (Pavley) was enacted on July 22, 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

Executive Order S-3-05

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The executive order established the following goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80% below 1990 levels by 2050. The California Environmental Protection Agency secretary is required to coordinate efforts of various agencies to collectively and efficiently reduce GHGs. The Climate Action Team (CAT) is composed of representatives from several state agencies and is responsible for implementing global warming emissions reduction programs. Under the executive order, the California Environmental Protection Agency secretary is directed to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The CAT fulfilled its initial report requirements through the 2006 *Climate Action Team Report to Governor Schwarzenegger and the Legislature* (CAT 2006).

The 2009 *Climate Action Team Biennial Report* (CAT 2010b), published in April 2010, expands on the policy outlined in the 2006 assessment. The 2009 report provides new information and scientific findings regarding the development of new climate and sea-level projections using new information and tools that have recently become available. The report also evaluates climate change within the context of broader social changes, such as land use changes and demographics. In addition, the 2009 report identifies the need for additional research in several different aspects that affect climate change in order to support effective climate change strategies. The aspects of climate change determined to require future research include vehicle and fuel technologies, land use and smart growth, electricity and natural gas, energy efficiency, renewable energy and reduced carbon energy sources, low-GHG technologies for other sectors, carbon sequestration, terrestrial sequestration, geologic sequestration, economic impacts and considerations, social science, and environmental justice.

The subsequent 2010 *Climate Action Team Report to Governor Schwarzenegger and the California Legislature* (CAT 2010a) reviews past climate action milestones, including voluntary reporting programs, GHG standards for passenger vehicles, the Low Carbon Fuel Standard (LCFS), a statewide renewable energy standard, and the cap-and-trade program. Additionally, the 2010 report includes a cataloguing of recent research and ongoing projects; mitigation and adaptation strategies identified by sector (e.g., agriculture, biodiversity, electricity, and natural gas); actions that can be taken at the regional, national, and international levels to mitigate the adverse effects of climate change; and today's outlook on future conditions.

Assembly Bill 32

In furtherance of the goals established in Executive Order S-3-05, the legislature enacted AB 32 (Núñez and Pavley), the California Global Warming Solutions Act of 2006, which Governor

Schwarzenegger signed on September 27, 2006. The GHG emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020.

CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

The first action under AB 32 resulted in the adoption of a report listing early action GHG emissions reduction measures in June 2007. The early actions include three specific GHG control rules. In October 2007, CARB approved an additional six early action GHG reduction measures under AB 32. The three original early action regulations meeting the narrow legal definition of "discrete early action GHG reduction measures" include the following:

1. A low-carbon fuel standard to reduce the "carbon intensity" of California fuels.
2. Reduction of refrigerant losses from motor vehicle air conditioning system maintenance to restrict the sale of "do-it-yourself" automotive refrigerants.
3. Increased methane capture from landfills to require broader use of state-of-the-art methane capture technologies.

The additional six early action regulations, which were also considered "discrete early action GHG reduction measures," consist of the following:

1. Reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology.
2. Reduction of auxiliary engine emissions of docked ships by requiring port electrification.
3. Reduction of perfluorocarbons from the semiconductor industry.
4. Reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products).
5. Requirements that all tune-up, smog check, and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency.
6. Restriction on the use of SF_6 from non-electricity sectors if viable alternatives are available.

As required under AB 32, on December 6, 2007, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 MMT CO_2E. In addition to the 1990 emissions inventory, CARB also adopted regulations requiring mandatory reporting of GHGs for large facilities that account for 94% of GHG emissions from industrial and commercial stationary sources in California. Approximately 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and other industrial sources that emit CO_2 in excess of specified thresholds.

In December 2008, CARB approved the *Climate Change Proposed Scoping Plan: A Framework for Change* (Scoping Plan) (CARB 2008) to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program.

The key elements of the Scoping Plan include the following:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33%.
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the LCFS.
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

The First Update to the Climate Change Scoping Plan (Scoping Plan Update) was approved by CARB in May 2014. The Scoping Plan Update builds upon the initial Scoping Plan with new strategies and recommendations. The update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The update defines CARB's climate change priorities for the next 5 years and sets the groundwork to reach California's long-term climate goals set forth in Executive Orders S-3-05 and B-16-2012. The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. These efforts were pursued to achieve the near-term 2020 goal and have created a framework for ongoing climate action that can be built upon to maintain and continue economic sector-specific reductions beyond 2020, as required by AB 32. The Scoping Plan Update identifies key focus areas or sectors including energy, transportation, agriculture, water, waste management, natural and working lands, short-lived climate pollutants, green buildings, and the cap-and-trade program (CARB 2014b). The update also recommends that a statewide mid-term target and mid-term and long-term sector targets be established toward meeting the 2050 goal established by Executive Order S-3-05 to reduce California's GHG emissions to 80% below 1990 levels, although no specific recommendations are made.

Senate Bill 1368

In September 2006, Governor Schwarzenegger signed Senate Bill (SB) 1368, which requires the California Energy Commission (CEC) to develop and adopt regulations for GHG emissions performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC). This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low as or lower than new combined-cycle natural gas plants, by requiring imported electricity to meet GHG performance standards in California, and by requiring that the standards be developed and adopted in a public process.

Executive Order S-1-07

Issued on January 18, 2007, Executive Order S-1-07 sets a declining LCFS for GHG emissions measured in CO_2E grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste. In addition, the LCFS would drive the availability of plug-in hybrid, battery electric, and fuel-cell power motor vehicles. The LCFS is anticipated to lead to the replacement of 20% of the fuel used in motor vehicles with alternative fuels by 2020.

Senate Bill 375

In August 2008, the legislature passed and on September 30, 2008, Governor Schwarzenegger signed SB 375 (Steinberg), which addresses GHG emissions associated with the transportation section through regional transportation and sustainability plans. By September 30, 2010, CARB was required to assign regional GHG reduction targets for the automobile and light truck sector for 2020 and 2035. The targets are required to consider the emission reductions associated with vehicle emission standards (see SB 1493), the composition of fuels (see Executive Order S-1-07), and other CARB-approved measures to reduce GHG emissions. Regional metropolitan planning organizations will be responsible for preparing a Sustainable Communities Strategy within the Regional Transportation Plan. The goal of the Sustainable Communities Strategy is to establish a development plan for the region that, after considering transportation measures and policies, will achieve the GHG reduction targets, if feasible. If a Sustainable Communities Strategy is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. SB 375 provides incentives for streamlining CEQA requirements by substantially reducing the requirements for "transit priority projects," as specified in SB 375, and eliminating the analysis of the impacts of certain residential projects on global warming and the growth-inducing impacts of those projects when the projects are consistent with the Sustainable Communities Strategy or Alternative Planning Strategy. On September 23, 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for the Southern California Association of Governments (SCAG) are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035. Achieving these goals through adoption of a Sustainable Communities Strategy will be the responsibility of the metropolitan planning organizations. SCAG prepared its Regional Transportation Plan / Sustainable Communities Strategy, which was adopted by the SCAG Regional Council on April 4, 2012. The plan quantified a 9% reduction by 2020 and a 16% reduction by 2035. On June 4, 2012, the CARB executive officer issued an executive order accepting SCAG's quantification of GHG reductions and the determination that the Sustainable Communities Strategy would achieve the GHG emission reduction targets established by CARB.

Executive Order S-13-08

Governor Schwarzenegger issued Executive Order S-13-08 on November 14, 2008. The Executive Order is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. It directs state agencies to take specified actions to assess and plan for such impacts. It directs the California Natural Resources Agency, in cooperation with the California Department of Water Resources, the CEC, California's coastal management agencies, and the Ocean Protection Council, to request the National Academy of Sciences to prepare a Sea Level Rise Assessment Report by December 1, 2010. The Ocean Protection Council, California Department of Water Resources, and CEC, in cooperation with other state agencies, were required to conduct a public workshop to gather information relevant to the Sea Level Rise Assessment Report. The Business, Transportation, and Housing Agency was ordered to assess the vulnerability of the state's transportation systems to sea-level rise within 90 days of the order. The OPR and the California Natural Resources Agency are required to provide land use planning guidance related to sea-level rise and other climate change impacts. The order also requires the other state agencies to develop adaptation strategies by June 9, 2009, to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. A discussion draft adaptation strategies report was released in August 2009, and the final adaption strategies report was issued in December 2009. To assess the state's vulnerability, the report summaries key climate change impacts to the state for the following areas: public health, ocean and coastal resources, water supply and flood protection, agriculture, forestry, biodiversity and habitat, and transportation and energy infrastructure. The report then recommends strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

Senate Bill X1 2

On April 12, 2011, Governor Jerry Brown signed SB X1 2 in the First Extraordinary Session, which would expand the Renewable Portfolio Standard (RPS) by establishing a target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current and that meets other specified requirements with respect to its location. In addition to the retail sellers covered by SB 107 (2006), SB X1 2 adds local publicly owned electric utilities to the RPS. By January 1, 2012, the CPUC was required to establish the quantity of electricity products from eligible renewable energy resources to be procured by retail sellers in order to achieve targets of 20% by December 31, 2013; 25% by December 31, 2016; and 33% by December 31, 2020. Retail sellers do not include local publicly owned electric utilities. The statute also requires that the governing boards for these utilities establish the same targets, and that the governing boards be responsible for ensuring compliance with these targets. The CPUC will be responsible for enforcement of the RPS for retail sellers, while the CEC and CARB will enforce the requirements for local publicly owned electric utilities.

4.6.2.5 Existing Emissions

GHG emissions generated during operation of existing OCC buildings and facilities were estimated to provide a baseline for comparison to projected operational emissions generated by buildout of buildings and facilities of the proposed project. Year 2013 was used to represent existing conditions.[2] Operation of OCC currently results in GHG emissions through energy use (natural gas and generation of electricity consumed by the existing buildings and facilities); motor vehicle trips to existing OCC land uses; generation of electricity associated with water supply, treatment, and distribution and wastewater treatment; and solid waste disposal. Annual GHG emissions from these sources were estimated using CalEEMod.

OCC currently generates GHG emissions primarily through vehicular traffic (mobile sources) generated by students, faculty and staff, employees, and visitors to the campus. Emissions associated with existing daily traffic were modeled using weekday trip-generation rates, which were calculated using the project traffic generation values provided in the draft traffic impact analysis report (Appendix G; LLG 2015). CalEEMod default Saturday and Sunday trip-generation rates were adjusted based on weekday trip-generation rates per land use type, as weekend trip-generation rates were not provided in the draft traffic impact analysis report. CalEEMod default data for temperature, variable start information, and emission factors were conservatively used for the model inputs. Project-related traffic was assumed to consist of a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2013 emission factors were used to represent existing conditions.

In addition to estimating mobile source emissions, CalEEMod was used to estimate emissions from the project area sources, which include gasoline-powered landscape maintenance equipment, consumer products, and architectural coatings for the maintenance of buildings. The estimated existing operational emissions were based on existing land use defaults and total area (i.e., square footage) of OCC buildings and facilities that were in operation in 2013. Existing development of academic, general administrative, and auxiliary land uses on the campus totals approximately 944,394 gross square feet (GSF)[3] and 9,832 parking lot spaces.

Emissions from energy sources, which include natural gas appliances, space and water heating, and building electricity, were also estimated using CalEEMod. Default values for indoor and outdoor water use were changed to 52,808,200 and 30,392,820 gallons per year, respectively,

2 Most of the existing data for the campus reflect conditions in the 2011 to 2013 time frame; 2013 was selected for purposes of the baseline analysis.

3 Although the exact GSF of existing campus facilities is not known, it is assumed that 78% of the campus facility GSF is equal to the existing facilities' assignable square feet (ASF), which is 651,951. Therefore, the existing GSF can be approximated at 835,800.

based on campus water consumption from July 2011 through June 2012. Solid waste generation rates were changed to 200 tons per year based on generation rates for 2011. Natural gas consumption defaults were also revised through Title 24 and non-Title 24 natural gas energy intensities to values of 17.45 thousand British thermal units (MBtu) and 8.53 MBtu per 1,000 square feet per year, respectively, to reflect OCC's natural gas consumption from July 2011 through June 2012. Electricity consumption defaults were also revised through Title 24, non-Title 24, and lighting energy intensities to values of 5.73, 2.55, and 4.03 kilowatt-hours per 1,000 square feet per year, respectively, to reflect OCC's electricity consumption from July 2011 through June 2012.

The estimated existing operational GHG emissions from electricity usage, mobile sources, water consumption, wastewater treatment, and solid waste generation in 2013 are shown in Table 4.6-2, Estimated Existing Operational GHG Emissions. Details of the emission calculations are provided in Appendix B to this Program Environmental Impact Report (PEIR).

Table 4.6-2
Estimated Existing Operational GHG Emissions

	MT CO_2	MT CH_4	MT N_2O	MT CO_2E
Area	0.27	<0.01	0.00	0.28
Energy (natural gas and electricity)	4,636	0.18	0.06	4,657
Mobile source	28,239	1.37	0.00	28,268
Solid waste	41	2.40	0.00	91
Water supply and wastewater	298	1.73	0.04	348
Total	**33,214**	**5.68**	**0.10**	**33,364**

Note: See Appendix B for complete results.
GHG = greenhouse gas; MT = metric ton(s); CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent

4.6.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to GHGs / climate change are based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to GHG emissions would occur if the project would:

1. ***Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.***
2. ***Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.***

No topics related to GHGs / climate change were eliminated in the Initial Study for the proposed project; therefore, all topics are covered in the PEIR impacts analysis.

The California Natural Resources Agency adopted amendments to the CEQA Guidelines on December 30, 2009, that became effective on March 18, 2010. The CEQA Guidelines with respect to GHG emissions state in Section 15064.4(a) that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. Section 15064.4(a) further notes that an agency may identify emissions by either selecting a “model or methodology” to quantify the emissions or by relying on “qualitative analysis or other performance based standards.” Section 15064.4(b) provides that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

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

The OPR Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review* states that “public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact.” Furthermore, the advisory document indicates that “in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a ‘significant impact,’ individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice” (OPR 2008).

It is generally the case that an individual project is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). Accordingly, a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Neither the State of California nor SCAQMD has established thresholds for assessing the significance of a project’s cumulative contribution to global climate change.

In the absence of accepted numeric thresholds, the significance of the GHG emissions associated with the proposed project will be evaluated using the following two criteria:

- Would the project reduce GHG emissions compared to existing conditions?
- Would the project reduce emissions from business as usual in a manner sufficient to achieve the statewide goal for reduction of GHG emissions?

The first criterion would be achieved if the estimated GHG emissions under the proposed project would be less than the current (2013) GHG emissions through a combination of project design features and other GHG-reduction measures and statewide GHG-reduction measures that would ultimately influence emissions associated with motor vehicles and generation of electricity.

The second criterion would be achieved if the estimated GHG emissions under the proposed project would achieve California's goal under AB 32. As noted in Section 4.6.2.4 , AB 32 is a legal mandate requiring that statewide GHG emissions be reduced to 1990 levels by 2020. In adopting AB 32, the legislature determined the necessary GHG reductions for the state to make in order to sufficiently offset its contribution to global climate change.

To understand what percentage reduction in emissions would be required to achieve AB 32's goal, CARB first determined that the 1990 baseline GHG-emission level is 427 MMT CO_2E. CARB then estimated the statewide emissions that would be generated in 2020 (see CARB 2008, Appendix F). CARB's current prediction for 2020 emissions is 545 MMT CO_2E, assuming business as usual (CARB 2010).[4] The 2020 business-as-usual forecast does not take any credit for reductions from GHG measures included in the Scoping Plan, including those enacted before AB 32 (e.g., AB 1493). Accordingly, AB 32's mandated decrease in GHG emissions from 545 to 427 MMT CO_2E is equivalent to a 21.7% emission reduction. Thus, the AB 32 mandate requires a 21.7% reduction in emissions relative to the 2020 business-as-usual scenario.

AB 32 will result in emission reductions in a variety of ways, including increasing energy efficiency and introducing more renewable energy sources. However, a reduction of 21.7% from a 2020 business-as-usual scenario would satisfy AB 32's goal. Accordingly, the proposed project should comply with its share of AB 32 goals by reducing project GHG emissions to 21.7% below a 2020 business-as-usual scenario in order to appropriately mitigate the project's cumulative GHG emission impacts consistent with the goal of AB 32.

[4] CARB initially estimated the 2020 business-as-usual forecast in 2010 as 596 MMT CO_2E (CARB 2008). The forecast was reevaluated in 2010 in light of the downturn in the California economy in recent years. The revised 2020 forecast without accounting for any statewide GHG-reduction measures is 545 MMT CO_2E.

4.6.4 Impacts Analysis

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

Construction Impacts

Construction of the proposed project would result in GHG emissions that would primarily be associated with use of off-road construction equipment, on-road hauling and vendor trucks, and worker vehicles. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 4.2, Air Quality.

During Phase 1, new construction of buildings and facilities would total 21,130GSF, renovation of Watson Hall would total 58,603 GSF, and the total size of buildings demolished would be 26,376 GSF.[5] Table 4.6-3, Phase 1 Estimated Annual Construction GHG Emissions, presents construction emissions for the proposed project in 2015 and 2016.

Table 4.6-3
Phase 1 Estimated Annual Construction GHG Emissions

2015				
	MT CO_2	*MT CH_4*	*MT N_2O*	*MT CO_2E*
Recycling Center	36.06	0.01	0.00	36.27
2016				
	MT CO_2	*MT CH_4*	*MT N_2O*	*MT CO_2E*
Recycling Center	145.85	0.02	0.00	146.36
Planetarium	236.76	0.05	0.00	237.82
Watson Hall Renovation	95.99	0.02	0.00	96.40
Total	**478.60**	**0.09**	**0.00**	**480.58**

Note: See Appendix B for complete results.
GHG = greenhouse gas; MT = metric ton(s); CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent

As shown in Table 4.6-3, the estimated total GHG emissions during construction of Phase 1 would be approximately 36 metric tons (MT) CO_2E in 2015 and 481 MT CO_2E in 2016. Additional details regarding these calculations are provided in Appendix B.

New construction of buildings and facilities in Phase 2 would total 591,971 GSF and a total of 32,858 GSF of buildings would be demolished. Table 4.6-4, Phase 2 Estimated Annual

5 It should be noted that the estimated number of buildings to be constructed in each phase and the construction schedule are based on current estimates. The actual number and schedule may change; however, these assumed estimates are representative for purposes of assessing the potential for significant air quality / GHG emissions impacts.

Construction GHG Emissions, presents construction emissions for the proposed project in 2017, 2018, and 2019.

Table 4.6-4
Phase 2 Estimated Annual Construction GHG Emissions

2017				
	MT CO_2	*MT CH_4*	*MT N_2O*	*MT CO_2E*
Student Housing Project	603.02	0.07	0.00	604.57
2018				
	MT CO_2	*MT CH_4*	*MT N_2O*	*MT CO_2E*
Student Housing Project	55.36	0.01	0.00	55.53
Student Union	297.73	0.06	0.00	298.89
Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office	255.74	0.05	0.00	256.81
Total	**608.83**	**0.12**	**0.00**	**611.23**
2019				
	MT CO_2	*MT CH_4*	*MT N_2O*	*MT CO_2E*
Student Union	278.32	0.05	0.00	279.32
Adaptive Physical Education, Gymnasium, Pool Facilities, and Division Office	222.10	0.04	0.00	222.96
Total	**500.42**	**0.09**	**0.00**	**502.28**

Note: See Appendix B for complete results.
GHG = greenhouse gas; MT = metric ton(s); CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent;

As shown in Table 4.6-4, the estimated total GHG emissions during construction of Phase 2 would be approximately 605 MT CO_2E in 2017, 611 MT CO_2E in 2018, and 502 MT CO_2E in 2019.

Phase 3 consists of construction of 107,760 GSF of a new Language Arts and Social Sciences Building, the construction of a new 43,916 GSF Chemistry Building, the construction of a 32,000 GSF Dance building, and the demolition of 83,677 GSF of buildings. The construction of the Multidisciplinary Building (25,000 GSF), OCC Village (104,871 GSF), parking structure (708,320 GSF), the renovation of the 24,592 GSF Skill Center, and the demolition of 133,252 GSF of existing facilities is currently unscheduled. For the purpose of this analysis, it was assumed that the Multidisciplinary Building would be constructed at the end of Phase 3, commencing in May 2021 with completion in November 2021. It was assumed that the OCC Village would be constructed beginning in June 2022 with completion in August 2023. It was assumed that the parking structure would be constructed beginning in September 2023 with completion in November 2024. It was assumed the Skill Center would be renovated beginning in January 2022 and ending in May 2022. It was assumed that demolition of existing campus facilities would occur beginning in June 2024 and ending in August 2024. Table 4.6-5, Phase 3

Estimated Annual Construction GHG Emissions, presents construction emissions for the proposed project in 2020, 2021, 2022, 2023, and 2024.

Table 4.6-5
Phase 3 Estimated Annual Construction GHG Emissions

	MT CO_2	MT CH_4	MT N_2O	MT CO_2E
2020				
Language Arts and Social Sciences Building	118.30	0.02	0.00	118.75
Chemistry Building	55.64	0.01	0.00	55.91
Dance Building	53.94	0.01	0.00	54.22
Total	**227.88**	**0.04**	**0.00**	**228.88**
2021				
Dance Building	25.01	0.01	0.00	25.15
Chemistry Building	26.43	0.01	0.00	26.56
Multidisciplinary Building[a]	76.76	0.02	0.00	77.17
Total	**128.20**	**0.04**	**0.00**	**128.88**
2022				
Skill Center Renovation[b]	95.92	0.02	0.00	96.31
OCC Village[c]	262.35	0.05	0.00	263.36
Total	**358.27**	**0.07**	**0.00**	**359.67**
2023				
OCC Village[c]	229.21	0.04	0.00	230.06
Parking Structure[d]	231.62	0.03	0.00	232.26
Total	**460.83**	**0.07**	**0.00**	**462.32**
2024				
Parking Structure[d]	674.38	0.07	0.00	675.81
Additional Demolition[e]	55.25	0.01	0.00	55.48
Total	**729.63**	**0.08**	**0.00**	**731.29**

Note: See Appendix B for complete results.
GHG = greenhouse gas; MT = metric ton(s); CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent

[a] The construction schedule of the Multidisciplinary Building is currently unknown; however, to provide an estimate, it is assumed that construction would occur from May 2021 to November 2021.

[b] The renovation schedule of the Skill Center is currently unknown; however, to provide an estimate, it is assumed that construction would occur from January 2022 to May 2022.

[c] The construction schedule of the OCC Village is currently unknown; however, to provide an estimate, it is assumed that construction would occur from June 2022 to August 2023.

[d] The construction schedule of the Parking Structure is currently unknown; however, to provide an estimate, it is assumed that construction would occur from September 2023 to November 2024.

[e] The demolition schedule of existing campus facilities is currently unknown; however, to provide an estimate, it is assumed that demolition would occur from June 2024 to August 2024.

As shown in Table 4.6-5, the estimated total GHG emissions during construction of Phase 3 would be approximately 229 MT CO_2E in 2020, 129 MT CO_2E in 2021, 360 MT CO_2E in 2022, 462 MT CO_2E in 2023, and 731 MT CO_2E in 2024.

Operational Impacts

Operational Emissions Compared to Existing Conditions

Operation of the proposed project would result in GHG emissions through energy use (natural gas and generation of electricity consumed by the project); motor vehicle trips to project land uses; generation of electricity associated with water supply, treatment, and distribution and wastewater treatment; and solid waste disposal. Annual GHG emissions from these sources were estimated using CalEEMod. The proposed project would primarily generate GHG emissions through vehicular traffic generated by students, faculty and staff, and employees and visitors.

Emissions associated with existing and project-generated daily traffic were modeled using weekday trip-generation rates, which were calculated using the project traffic generation values provided in the draft traffic impact analysis report prepared by Linscott, Law & Greenspan (LLG 2015). CalEEMod default Saturday and Sunday trip-generation rates were adjusted based on weekday trip-generation rates per land use type, as weekend trip-generation rates were not provided in the draft traffic impact analysis report. CalEEMod default data for temperature, variable start information, and emission factors were conservatively used for the model inputs. Project-related traffic was assumed to consist of a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2024 emission factors were used to represent project buildout and the first full year of operation.

CalEEMod was used to estimate emissions from the project area sources, which include gasoline-powered landscape maintenance equipment. CalEEMod also includes emissions from the operation of fireplaces and woodstoves from residential developments by default; however, it was assumed that no fireplaces or woodstoves would be installed as part of the proposed student housing project.

Emissions from energy sources, which include natural gas appliances, space and water heating, and building electricity, were also estimated using CalEEMod. Default values for indoor and outdoor water use, solid waste generation, and electricity and natural gas consumption (through Title 24, non-Title 24, and lighting energy intensities and Title 24 and non-Title 24 natural gas energy intensities) were used for the new facilities constructed as part of the proposed project. Default values for electricity and natural gas consumption through Title 24 and non-Title 24 natural gas energy intensities and Title 24, non-Title 24, and lighting energy intensities were adjusted to reflect historical energy use of existing facilities (see Section 4.6.2.5, Existing Emissions). A Solar Photovoltaic (PV) Panel Carport System to be installed on campus, which was approved under a Notice of Exemption, would provide an additional energy source to the campus. According to the National Renewable Energy Laboratory PVWatts Calculator, the Solar PV Panel Carport System would generate approximately 4,963,313kilowatt-hours of energy per year (NREL 2015). PVWatts default values were used.. This additional energy source was provided as energy mitigation in CalEEMod to calculate GHG emissions for the proposed project buildout.

In 2024, upon buildout of the proposed project, existing development and proposed development of academic, general administrative, residential, and auxiliary land uses on the campus would total approximately 1,594,879 GSF; 708,320 GSF of parking structures would also be developed. A total of 10,919 parking spaces would be provided on campus.

The estimated operational GHG emissions from project area sources, electricity usage, motor vehicles, water consumption, wastewater treatment, and solid waste generation, associated with the proposed project at full buildout in 2024 are shown in Table 4.6-6, Estimated Operational GHG Emissions. The estimated existing operational emissions in 2013, as shown in Table 4.6-2, were subtracted from the proposed project emissions to present the net change in GHG emissions. Details of the emission calculations are provided in Appendix B.

Table 4.6-6
Estimated Operational GHG Emissions

	MT CO_2	MT CH_4	MT N_2O	MT CO_2E
Area	5.34	0.00	0.00	5.46
Energy (natural gas and electricity)	5,442	0.25	0.08	5,471
Mobile source	34,155	1.12	0.00	34,179
Solid waste	158	9.32	0.00	354
Water supply and wastewater	586	4.13	0.10	705
Total emissions	**40,347**	**14.82**	**0.18**	**40,714**
Existing emissions	33,226	5.68	0.10	33,376
Net change in emissions	**7,121**	**9**	**0.08**	**7,338**

Note: See Appendix B for complete results. Values in parentheses indicate a reduction in emissions.
GHG = greenhouse gas; MT = metric ton(s); CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent

As shown in Table 4.6-6, estimated annual project-generated GHG emissions would be approximately 40,714 MT CO_2E per year. The net change in GHG emissions from 2013 to 2024 would be 7,338 MT CO_2E per year. Compared to existing conditions, the proposed project would result in an addition of GHG emissions.

Operational Emissions Compared to Business as Usual

The following discussion compares the project's operational GHG emissions under two scenarios—(1) business as usual and (2) as proposed—together with implementation of selected statewide GHG-reduction measures. Both scenarios evaluate the emissions in 2024. While 2020 is the state's target year to achieve 1990 emission levels under AB 32, the proposed project does not anticipate full buildout until 2024. In addition, several of the statewide measures that are assumed to reduce the project's GHG emissions would not be fully implemented until at least 2020.

All operational conditions and assumptions discussed above for the proposed project (e.g., areas for campus and public–private partnership buildings, water consumption, and sources of electricity) would also apply to the business-as-usual and proposed project scenarios, except as identified below. CalEEMod was used to estimate the GHG emissions associated with the two scenarios; however, some adjustments were made to reflect the business-as-usual conditions.

As noted previously, CARB's business-as-usual forecast for 2020 does not take any credit for reductions from GHG measures included in the Scoping Plan, including those enacted before AB 32. Accordingly, the business-as-usual scenario reflects conditions prior to the passage of AB 32 in 2006 (i.e., conditions typical of those in the 2005–2006 time frame). This scenario assumes the following conditions, consistent with this definition of business as usual:

- No implementation of AB 1493 ("Pavley") motor vehicle standards for automobiles and light-duty trucks, although fuel efficiency would reflect the average efficiency of the motor vehicle fleet as determined by CalEEMod.
- No implementation of the LCFS for motor vehicle fuels.
- Reclaimed water use for the project's landscape irrigation needs with an associated reduction in use of electricity for water supplied to the project site consistent with current practice.
- OCC campus building use of electricity and natural gas at levels based on the energy-use intensity (i.e., energy used per square foot) in fiscal year 2005/2006.
- Student housing project and the parking structure use of electricity and natural gas at levels determined by CalEEMod.
- Southern California Edison (SCE) provision of electricity to the campus, of which 16% is obtained from renewable energy sources as occurred in 2006 (SCE 2007).

The motor vehicle GHG emissions without implementation of the Pavley motor vehicle standards and the LCFS were estimated by substituting the non-Pavley/LCFS emission factors (ENVIRON 2013, Appendix D, Table 4.4) for automobiles, light-duty trucks, and medium-duty trucks in CalEEMod. The GHG emissions associated with water supply were estimated using methods based on CalEEMod as described for the proposed project. Because reclaimed water is currently used for irrigation on the campus, this condition was used for the business-as-usual scenario. The GHG emissions associated with electricity and natural gas usage were estimated using the same methods as those for the proposed project; however, electricity and natural gas usage factors reflecting conditions in fiscal year 2005/2006 were used (Goode, pers. comm. 2013) for the campus buildings. In addition, the default value associated with electricity supplied by SCE in CalEEMod, which reflects 2007 data, was unmodified.

The estimated GHG emissions under the business-as-usual scenario associated with motor vehicles, natural gas and electricity usage, water supply and wastewater, and solid waste corresponding to the proposed project's operations in 2024 are shown in Table 4.6-7, Estimated Project GHG Emissions Compared to Business as Usual.

Under the proposed project scenario, the following GHG measures would occur:

- The motor vehicle fleet would include newer vehicles, reflecting implementation of Pavley motor vehicle standards for automobiles and light-duty trucks as calculated by CalEEMod
- Motor vehicles would use fuels meeting the LCFS for motor vehicle fuels that would reduce the carbon intensity by 10% relative to current fuels as calculated by CalEEMod
- Reclaimed water would be used for the project's landscape irrigation needs with an associated reduction in use of electricity for water supplied to the project site consistent with current and future practices
- OCC campus buildings would use electricity and natural gas at levels determined by CalEEMod
- SCE would provide electricity to the campus, of which 33% would be obtained from renewable energy sources in compliance with SB X1 2, resulting in a 20.2% reduction in CO_2 emissions relative to the level assumed in the business-as-usual scenario.

Table 4.6-7
Estimated Project GHG Emissions Compared to Business as Usual

Source	GHG Emissions Business as Usual (MT CO_2E)	GHG Emissions with GHG Reduction Measures (MT CO_2E)	Percent Reduction
Area	5	5	0.0%
Energy (natural gas and electricity)	6,945	5,471	21.2%
Mobile sources	46,172	34,179	26.0%
Solid waste	354	354	0.0%
Water supply and wastewater	832	705	15.3%
Total	**54,308**	**40,714**	**25.0%**

Note: See Appendix B for complete results.
GHG = greenhouse gas; MT CO_2E = metric tons carbon dioxide equivalent

The motor vehicle GHG emissions with implementation of the Pavley motor vehicle standards and the LCFS were estimated using the unmodified emission factors for automobiles, light-duty trucks, and medium-duty trucks in CalEEMod. The GHG emissions associated with water supply were estimated using methods based on CalEEMod as described for the proposed project. Because reclaimed water is currently used and will continue to be used for irrigation on the campus, this condition was also used for the proposed project scenario. The GHG emissions associated with electricity and natural gas usage were estimated using the CalEEMod defaults. To reflect the emission factor for generation of electricity in the SCE service area, the default value of 641.26 pounds of CO_2 per megawatt-hour (lb CO_2/MWh) was adjusted by the amount of electricity provided by renewable energy sources, assuming that such sources either produce no direct GHG emissions (e.g., wind, solar) or produce CO_2 emissions that are biogenic (e.g., biomass). In 2006, 16% of the electricity sold by SCE was generated by renewable energy sources (SCE 2007). This adjustment would represent the CO_2 emission factor for electricity provided by SCE if it did not include renewable energy sources. The adjusted emission factor was then adjusted again to reflect an energy portfolio that would consist of 33% renewable energy sources as required by the RPS in 2020, as specified by SB X1 2. This calculation is shown below:

$$641.26 \text{ lb } CO_2/\text{MWh} \div (1 - 0.16) \times (1 - 0.33) = 511.48 \text{ lb } CO_2/\text{MWh}$$

The resultant value was entered in CalEEMod to represent the CO_2 emission factor for electrical generation in 2020 and after.

Table 4.6-7 shows the estimated GHG emissions for the proposed project scenario in 2024. Additional details regarding these calculations can be found in Appendix B. The estimated GHG emissions would be 54,308 MT CO_2E per year under the business-as-usual scenario, and 40,714 MT CO_2E per year with the statewide GHG-reduction measures. As indicated in Table 4.6-7, implementation of the GHG-reduction measures would reduce GHG emissions by 25.0% relative to business as usual.

As shown in Tables 4.6-3 through 4.6-6, the proposed project would contribute to the overall production of GHG emissions during construction and operation. The operation of the proposed project would result in an increase in GHG emissions relative to existing conditions. Several statewide GHG-reduction measures would reduce GHG emissions associated with motor vehicles and electrical generation over time. The benefits of these measures are compared to the GHG emissions that would be generated under a business-as-usual scenario. As shown in Table 4.6-7, the proposed project along with implementation of the statewide measures would result in a 25.0% reduction compared to business as usual. Accordingly, it would achieve an equivalent of the 21.7% statewide reduction required to meet the goal of AB 32. On the basis of the comparison of the proposed project's GHG emissions to business as usual, the proposed project would result in an impact for GHG emissions that is less than significant.

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

As discussed in Section 4.6.2.4, the Scoping Plan approved by CARB on December 12, 2008, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Moreover, the Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., LCFS), among others. While state regulatory measures will ultimately reduce GHG emissions associated with the project through their effect on these sources, no statewide plan, policy, or regulation would be specifically applicable to reductions in GHG emissions from the project. Furthermore, neither OCC, nor local jurisdictions, nor the SCAQMD have adopted any GHG reduction measures that would apply to the GHG emissions associated with the proposed project. At this time, no mandatory GHG regulations or finalized agency guidelines would apply to implementation of this project, and no conflict would occur. Therefore, this impact would be less than significant.

4.6.5 Mitigation Measures

Because impacts related to GHG emissions are found to be less than significant, no mitigation measures are necessary.

4.6.6 Level of Significance after Mitigation

Since mitigation is not necessary, residual impacts would be less than significant.

4.6.7 Cumulative Impacts

Despite this significance conclusion, the proposed project's contribution to global GHG emissions and the resultant effect on global climate should be evaluated on a cumulative basis, as stated previously. Under CEQA, a project would have a significant cumulative impact caused by the combined impact of past, present, and probable future projects if its incremental impact represents a "cumulatively considerable" contribution to such cumulative impacts (14 CCR 15064(h)). The proposed project would generate GHG emissions that contribute to potential cumulative impacts of GHG emissions on climate change. Because levels of GHG emissions in the atmosphere are at levels considered substantial enough to create adverse impacts (i.e., climate change), the emissions of a particular project, even if not considered to produce a significant impact, may nonetheless contribute to an adverse, unavoidable impact. In light of the previous conclusions regarding the proposed project's reduction in GHG emissions relative to existing conditions and business as usual, cumulative impacts in terms of climate change are less than significant.

4.6.8 References

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing Orange Coast College campus with regard to any hazardous materials or previous contamination in the project vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project). The discussion in this section is based on the Hazards Assessment prepared by Dudek, January 2014 (Appendix H).

4.7.1 Existing Conditions

California Government Code Section 65962.5 requires the California Environmental Protection Agency to prepare an annual hazardous waste and substances list, commonly referred to as the Cortese List. A review of federal, state, and local Cortese List databases identified a number of known and potentially contaminated sites within the project area.

4.7.1.1 Hazardous Materials

Existing and past land use activities are potential indicators of hazardous material storage and use. For example, many industrial sites, historical and current, are known to have soil or groundwater contamination. Other hazardous materials sources include leaking underground storage tanks (LUSTs), surface runoff from contaminated sites, and migration of contaminated groundwater plumes. A records review of federal, state, and local regulatory agency databases was used to evaluate environmental conditions of potential concern in the project area.

Regulatory Database Review

Environmental Data Resources

An environmental database search performed by Environmental Data Resources (EDR 2013; see Appendix H, Attachment A) listed 68 sites within the American Society for Testing Materials (ASTM) standard search radius of the project area. Two LUSTs were reported on the OCC campus; both are for gasoline releases to soil only. A release was reported in 1989 and the case was closed on August 31, 1990. Another release was reported in 1999 and the case was closed on February 2, 2000.

67 additional sites were identified within the ASTM- specified distance of the project area. 30 of these sites are listed in databases associated with permitting and hazardous material storage or disposal. Based on the information provided in the databases for these sites, it is unlikely they have impacted the environmental conditions at the project site.

32 of the 67 sites are listed in the LUST database. All 32 sites identified in the LUST database have a case closed status and based on the information provided in the databases they are unlikely to have impacted the environmental conditions at the project site. The remaining 5 sites were listed in the LUST database and have an open case status. These sites are discussed below.

1. Shell Service Station at 1201 East Baker Street is located 0.30 mile northwest of the project site. Approximately 80 gallons of gasoline was released during fuel line repairs. According to the *Corrective Action Plan for Monitored Natural Attenuation Report* prepared by Conestoga-Rovers & Associates, soil vapor extraction (SVE) was used to remove over 33,000 pounds of hydrocarbons from the source areas. In addition, 1.6 million gallons of groundwater and approximately 3 pounds of dissolved hydrocarbons were extracted. Based on the June 2013 groundwater monitoring report, groundwater depth is approximately 40 feet below ground surface (bgs) and groundwater flow is primarily to the southwest. Two groundwater monitoring wells are approximately 0.20 mile northwest of the subject property. Contaminant concentrations of concern are below detection limits in both wells, with the exception of benzene in one well. Benzene was 1.1 micrograms per liter (µg/L); however, this concentration is below the U.S. Environmental Protection Agency (EPA) maximum contaminant level of 5 µg/L. Given the distance to the subject property and groundwater flow, it is not expected that this site has impacted the environmental conditions of the project site.
2. Exxon Station at 1195 Baker Street is located 0.30 mile northeast of the project site. Gasoline was released to groundwater in 1992. According to the *Low Threat Closure Report* dated October 1, 2013, the impacted groundwater beneath the site is stable. Based on plume maps presented in the 2012 fourth quarter groundwater monitoring report, contaminant concentrations at the southernmost wells nearest to the project site were either not detected or below the regulatory limits. According to the State Water Resources Control Board's GeoTracker, this site is eligible for closure as of March 21, 2013. Based on the limited extent of the contaminant plumes and eligibility for closure, it is unlikely that this site has impacted the environmental conditions of the project site.
3. Mobil Station at 3006 Harbor Boulevard is located 0.50 mile northwest of the project site. Gasoline was released to groundwater in August 2000. The groundwater flow direction is primarily to the south and the depth to water is approximately 56 feet bgs. The site's environmental consultant, Blaes Environmental, stated that the site has been adequately remediated. According to GeoTracker, the site is eligible for closure as of March 23, 2012. Given the distance and recent eligibility for closure, it is unlikely that the site has impacted the environmental conditions at the project site.
4. Harbor Fair Exxon Corner Market at 2502 Harbor Boulevard is located 0.35 mile southwest of the project site. Diesel and waste oil were released to groundwater in

December 1991. According to GeoTracker, the site is eligible for closure as of October 21, 2012. Based on the distance from the project site, the downgradient location of the site, and its recent eligibility for closure, it is unlikely that the site has impacted the environmental conditions at the project site.

5. Costa Mesa Air National Guard is located 0.73 mile east of the project site, south of Presidio Drive and west of Newport Boulevard. The site is an 8.5-acre facility that has been active since 1964. Activities include routine maintenance of vehicles, generators, and various ground equipment. Hazardous wastes resulting from these activities include varying amounts of waste fuels, oils, paints, thinners, and solvents. A preliminary assessment was submitted in December 1990; no further action was concluded to be necessary. In December 2002, an Environmental Baseline Survey was submitted and a total of nine areas of concern were identified. The Department of Toxic Substances Control requested additional sampling. Given the distance from the project site and its cross-gradient location, it is unlikely that the site has impacted the environmental conditions at the project site.

The EDR report identified 12 sites located in the City of Costa Mesa that were not mapped due to limited address information. Dudek further researched the location of each site. Nine of the unmapped sites are not located within 1 mile of the project site. Two sites are not in any databases indicating a release has occurred. The last listing, the Costa Mesa Air National Guard site, is located within 1 mile of the project site and is discussed in detail above.

County of Orange Environmental Health Department

The County of Orange (County) Environmental Health Department has records for two closed LUST cases at the project site (Figure 4.7-1). Both cases involved fuel releases related to USTs at the OCC campus. The records also indicated that an additional UST was removed from near the Maintenance Building.

1. A release was reported after the removal of three USTs located near the Farm Maintenance Facility located on the west-central portion of the college campus (Figure 4.7-1, A). The USTs (one 1,000-gallon diesel, one 250-gallon weed oil, and one 250-gallon waste oil) were removed in 1988 and the tank pit was excavated to approximately 25 feet bgs. Soil samples revealed the presence of petroleum hydrocarbons and volatile organic compounds. Soil samples taken in 1989 showed low concentrations of petroleum hydrocarbons and soil samples taken in 1990 indicated that petroleum hydrocarbons were not detected deeper than 20 feet bgs. The maximum concentration of petroleum hydrocarbons was 43 milligrams per kilogram (mg/kg) detected at 15 and 20 feet bgs. The County Environmental Health Department granted closure for this release in August 1990.

2. A 1,000-gallon UST and associated piping was reportedly removed from near the Maintenance Building in August 1998 (Figure 4.7-1, B). Soil samples did not indicate the presence of a release and a case was not opened for this UST removal.
3. Diesel fuel-impacted soils were discovered in October 1999 near the Student Success Center located in the southeastern portion of the campus (Figure 4.7-1, C).A concrete tank was discovered during trenching activities for seismic retrofitting inside of the building. The building was reportedly formerly used by the U.S. Army as barracks and the tank was likely used to provide fuel for heating the building; the UST was reportedly removed in the 1940s. Soil borings from 1999 indicated the maximum concentration of total petroleum hydrocarbons as diesel (TPHd) was 7,400 mg/kg at 15 feet bgs, 6,200 mg/kg at 20 feet bgs, and not detected at 25 and 30 feet bgs. The County Environmental Health Department granted closure for this release in February 2000.

Background Information Interview

Maintenance and Operations Director

Mark Goode, director of maintenance and operations for OCC, was interviewed regarding background information and current uses of the subject property (Appendix H). Mr. Goode, who has been director for about 30 years, indicated that a prior use of the property was as a training facility for the Santa Ana Airbase. Two tanks were identified by Mr. Goode and have no reported releases; however, they are located in the vicinity of planned renovation at Building 11. Mr. Goode identified an area where a pond was located previously, and cattle and pigs were kept in the vicinity. Based on this knowledge, the area where cattle and pigs were kept may have potential environmental impacts to the project site.

Aerial Photography Review

EDR Historical Aerial Photographs

Historical aerial photographs from EDR were reviewed to determine whether evidence of recognized environmental conditions was present on the project site. Historical aerial photographs from 1938, 1947, 1953, 1963, 1972, 1977, 1990, 1995, 2005, 2009, 2010, and 2012 were reviewed. The photographs indicate that the subject property was used for agricultural purposes; therefore, residual pesticides and metals may be present in the soil.

Topographic Map Review

EDR Historical Topographic Maps

Historical topographic maps from EDR were reviewed to determine whether evidence of recognized environmental conditions was present on the project site. The historical topographic maps from 1901, 1902, 1935, 1942, 1951, 1965, 1972, and 1981 were reviewed. Based on this review, no evidence of recognized environmental conditions was found.

Sanborn Maps

Sanborn fire insurance maps provide information regarding historical activities, such as property use, property address, chemical storage, and street configuration. The Sanborn maps of the project site indicated that the property was an unmapped property; therefore, no maps were reviewed.

4.7.1.2 Fire Hazards

The City of Costa Mesa Fire Department (Fire Department) is responsible for fire prevention, enforcement of fire protection laws and ordinances, fire suppression, emergency medical services, hazardous materials response, and weed abatement. Fire protection incorporates all elements of the community, the private sector, community agencies, and the Fire Department. The Fire Department seeks to balance the various elements to better serve the community needs through the use of built-in fire protection, such as early warning and detection systems, automatic fire sprinklers, and fire-resistive design of structures and materials, as well as through fire prevention inspections and public education. The proposed project is located in an urbanized area of the City of Costa Mesa that does not include wildlands or high fire hazard terrain. Structural fire hazards are a main concern for the proposed project.

4.7.1.3 Airports

The closest airport to the project area is John Wayne International Airport, located approximately 5 miles west of the OCC campus, at 18800 MacArthur Boulevard in the City of Santa Ana. The project site is neither within the John Wayne International Airport area of influence nor in the vicinity of a private airstrip.

4.7.1.4 Emergency Action Plans

Orange County Emergency Operations Center

The Orange County Emergency Operations Center functions as the communication and coordination center for both the County and operational area emergency response organization and disaster preparedness, providing a central point for coordinating operational, administrative, and support needs of the County and operational area members. It also assists in coordination and communication between mutual aid coordinators and the state Office of Emergency Services during countywide and statewide emergency response and recovery operations. In addition, the Emergency Operations Center may become responsible for managing the tactical operations of regional resources designed to more efficiently use the pooled resources of operational area members or external resources to benefit the operational area as a whole.

City of Costa Mesa Emergency Operations Plan

The City of Costa Mesa General Plan Safety Element outlines the city's Emergency Operations Plan (City of Costa Mesa 2000), which is in place to provide guidance during emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. Aid during these unique emergency situations is available within the local government structure and associated agencies. The Emergency Operations Plan identifies key personnel and groups in the Costa Mesa Emergency Management Organization that are organized to protect life and property in the community. The Emergency Operations Plan specifies operations during an emergency, organization and assignment of responsibilities, coordination of instructions, how the plan is to be administered, procedures to identify responsible personnel, and methods to request aid/support from other local communities (City of Costa Mesa 2000).

Coast Community College District Hazard Mitigation Plan

The District Hazard Mitigation Plan includes resources and information to assist service area residents, public- and private-sector organizations, the college community (students, faculty, and staff), and other parties interested in future mitigation planning. This plan outlines actions taken to direct the District-wide efforts in risk reduction and loss prevention caused by natural hazard events. The strategies focuses on a multitude of natural hazard issues, with primary mitigating efforts directed at earthquake and liquefaction, flooding and storms, dam failure, high winds, urban fire, and tsunamis. The District will participate in the countywide mitigation efforts. They will partner with the cities where their facilities are located and with countywide and regional efforts. The District will work through the Orange County Emergency Management Organization and the Orange County Operational Area to do this (District 2011).

OCC Campus Emergency Operations Plan

The OCC Campus Emergency Operations Plan provides a comprehensive list of procedures and actions to be taken in order to respond properly to a variety of threatening and hazardous conditions. The plan includes a list of important phone numbers and how to respond during a fire, earthquake, active shooter, chemical or radiation spill, bomb threat, explosion, or utility failure. The plan also includes proper evacuation procedures for students with disabilities.

4.7.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Toxic Substances Control Act and Resource Conservation and Recovery Act

The federal Toxic Substances Control Act of 1976 (15 U.S.C. 2601–2697) and the Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. 6901–6992) established a program administered by the EPA for regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (PL 98-616), which affirmed and extended the "cradle-to-grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act. Under the authority of RCRA, the regulatory framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste, is found in 40 CFR 260–299.

Hazardous Materials Transportation Act

The U.S. Department of Transportation regulates hazardous materials transportation under Title 49 of the United States Code (U.S.C.). State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation. These agencies also govern permitting for hazardous materials transportation. Title 49 of the Code of Federal Regulations (CFR) reflects laws passed by Congress as of January 2, 2006.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601–9675), commonly known as "Superfund," was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants.

International Fire Code

The International Fire Code (IFC; ICC 2012), created by the International Code Council (ICC), is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code use a hazard classification system to determine what protective measures are required to protect life safety in relation to fire. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the IFC employs a permit system based on hazard classification. The IFC is updated every 3 years.

Federal Response Plan

The Federal Response Plan of 1999 (FEMA 1999) is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

State

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 330 et seq.). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

California Hazardous Waste Control Act

The Department of Toxic Substances Control is responsible for the enforcement of the Hazardous Waste Control Act (California Health and Safety Code, Section 25100 et seq.), which creates the framework under which hazardous wastes are managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA cradle-to-grave waste management system in California. It also provides for the designation of California-only hazardous waste and development of standards that are equal to or, in some cases, more stringent than federal requirements. While the Hazardous Waste Control Act is generally more stringent than RCRA, until the EPA approves the California hazardous waste control program (which regulates the generation, treatment, storage, and disposal of hazardous waste), both the state and federal laws apply in California. The Hazardous Waste Control Act lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

According to 22 CCR 66001 et seq., substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, contaminated, or is being stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances (e.g., gasoline, hexane, and natural gas) are hazardous because of their flammable properties. Corrosive substances (e.g., strong acids and bases such as sulfuric (battery) acid or lye) are chemically active and can damage other materials or cause severe burns upon contact. Reactive substances (e.g., explosives, pressurized canisters, and pure sodium metal, which reacts violently with water) may cause explosions or generate gases or fumes.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as “mixed wastes.” Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses (22 CCR 66261.1 et seq.).

California Accidental Release Prevention Program

Similar to the EPA Risk Management Program, the California Accidental Release Prevention (CalARP) Program (19 CCR 2735.1 et seq.) regulates facilities that use or store regulated substances, such as toxic or flammable chemicals, in quantities that exceed established thresholds. The overall purpose of CalARP is to prevent accidental releases of regulated substances and reduce the severity of releases that may occur. The CalARP Program meets the requirements of the EPA Risk Management Program, which was established pursuant to the Clean Air Act Amendments.

California Health and Safety Code

In California, the handling and storage of hazardous materials is regulated by Division 20, Chapter 6.95, of the California Health and Safety Code (Section 25500 et seq.). Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a hazardous materials business plan. Hazardous materials business plans contain basic information about the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state.

Chapter 6.95 of the California Health and Safety Code establishes minimum statewide standards for hazardous materials business plans. Each business shall prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material (including hazardous waste) or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance
- 55 gallons of a liquid
- 200 cubic feet of compressed gas
- A hazardous compressed gas in any amount (highly toxic with a threshold limit value of 10 parts per million or less)
- Extremely hazardous substances in threshold planning quantities (California Health and Safety Code, Section 25503.5).

In addition, in the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by California code, facilities are also required to prepare an EPA Risk Management Program plan and CalARP Program plan. The EPA Risk Management Program plan and CalARP Program plan provide information about the potential impact zone of a worst-case release and require plans and programs designed to minimize the probability of a release and mitigate potential impacts.

California Fire Code

The California Fire Code (CFC) is Chapter 9 of Title 24 of the CCR. It was created by the California Building Standards Commission and is based on the IFC created by the ICC. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every 3 years.

California Emergency Services Act

Under the Emergency Services Act (California Government Code, Section 8550 et seq.), the State of California developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an integral part of the plan, which is administered by the Governor's Office of Emergency Services. The Office of Emergency Services coordinates the responses of other agencies, including the California EPA, California Highway Patrol, Regional Water Quality Control Boards, air quality management districts, and county disaster response offices.

Local

City of Costa Mesa General Plan

It is the goal of the City of Costa Mesa to protect its citizens and property from injury, damage, or destruction from environmental hazards, including hydrologic, geologic, and climatic episodes, as well as from man-made hazards, including hazardous materials. The following goal, objective, and policies relevant to hazards and hazardous materials have been included in the City of Costa Mesa General Plan Safety Element (City of Costa Mesa 2000):

- **Goal SAF1:** Environmental and manmade hazard protection.
    - **Objective SAF-1B:** Participate in the safe, efficient and responsible management of hazardous waste materials.
        - **SAF-1B.1:** Participate with the County of Orange in the implementation of the Orange County Hazardous Waste Management Plan.

- **SAF-1B.2**: Ensure that appropriate in-depth environmental analyses are conducted for any proposed hazardous waste materials treatment, transfer, and/or disposal facility.
- **SAF-1B.3:** Continue to work with the County of Orange to identify and inventory all users of hazardous materials and all hazardous waste generators and prepare clean-up action plans for identified disposal sites.

4.7.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to hazards and hazardous materials are based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to hazards and hazardous material would occur if the project would:

1. ***Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.***
2. ***Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.***
3. ***Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.***
4. ***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 result, would it create a significant hazard to the public or the environment.***
5. ***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.***
6. ***For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.***
7. ***Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.***
8. ***Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.***

Three thresholds of significance were analyzed in Initial Study and determined to be “less than significant” or “no impact.” These were Thresholds 5, 6, and 8. Because John Wayne

International Airport is located approximately 5 miles west of the OCC campus, at 18800 MacArthur Boulevard in the City of Santa Ana, the project site is not located within an airport land use plan or within 2 miles of a public airport. The location of John Wayne International Airport in relation to the project site would not introduce safety hazards to people in the project area. There are also no private airstrips within the vicinity of the project site. Lastly, the campus is in an urban environment and would not be subject to wildland fires. Structural fires pose the biggest threat to the proposed project; however, construction would be required to adhere to federal, state, and local building code regulations regarding fire safety. As a matter of standard operating procedures, project elements would be designed to be consistent with regulations that have been enacted to prevent, manage, and mitigate the threat of urban fires, including the Uniform Fire Code, Title 14 of the CCR, and County Fire and Building Codes. The OCC campus has an Emergency Operations Plan that includes safety protocols in the event of a natural or manmade disaster, including local and regional fire hazards. Compliance with such regulations would reduce potential impacts as a result of structural fires on the OCC campus. Because these thresholds were found to be less than significant or no impact, they are not analyzed further in this PEIR.

4.7.4 Impacts Analysis

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

Construction Impacts

Relatively small amounts of commonly used hazardous substances, such as gasoline, diesel fuel, lubricating oil, grease, and solvents would be utilized during construction of instructional buildings, student housing project, the parking structure, and associated infrastructure and improvements as well as during demolition activities. These materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Consequently, use of these materials for their intended purpose would not pose a significant risk to the public or environment. Once construction is complete, fuels and other petroleum products would no longer remain on site. Accidental spills, leaks, fires, explosions, or pressure releases involving hazardous materials represent a potential threat to human health and the environment if not properly treated. Accident prevention and containment are the responsibility of the construction contractors, and provisions to properly manage hazardous substances and wastes are typically included in construction specifications. All contractors are required to comply with applicable laws and regulations regarding hazardous materials and hazardous waste management and disposal. In addition, the project would be required to comply with the State Water Resources Board Construction General Permit, which requires a stormwater pollution prevention plan (SWPPP) and development of best management practices (BMPs) for all phases of construction and potential pollutants generated by the construction activities.

Due to the age of the buildings, demolition activities could result in the release of contaminated materials and hazardous substances such as lead-based paint or asbestos. Potential release of these hazardous materials may expose construction workers and the public to potential health hazards during demolition and disposal. Prior to demolition, a lead-based paint and asbestos survey will be required to be conducted by a Cal/OSHA-certified asbestos assessor and California Department of Health Services-certified lead-based paint assessor (MM-HAZ-1).

Additionally, as identified in the Hazards Assessment (Dudek 2013; Appendix H), two LUST listings were identified on the OCC campus. Both cases were due to fuel releases to soil and both cases are closed. Proposed demolition would include the Student Success Center and Chemistry building, which are near where the former LUSTs were identified. While the case was closed by the County, impacted soils may still be present and therefore could be encountered during demolition, which could potentially expose construction workers and the public to hazardous conditions. Furthermore, based on review of the aerial photographs it is evident that the property was formerly used for agricultural purposes. Residual pesticides and metals may still be present in the soil, which could also present a potentially hazardous condition. Therefore, transport or disposal of soils from the project site could create a significant hazard to the public or the environment. In order to reduce potential impacts from contaminated soils, preparation of a hazardous materials contingency plan would be required (MM-HAZ-2).

Therefore, due to the potentially hazardous conditions that could result during demolition and disposal of older buildings and materials, or the transport and disposal of contaminated soils, impacts would be potentially significant and mitigation is required.

Operational Impacts

The types of hazardous materials associated with routine, day-to-day operation of the proposed project would include chemical reagents, solvents, fuels, paints, cleansers, and miscellaneous organics and inorganics that are used as part of building and grounds maintenance as well as vehicle maintenance. Chemical or hazardous material spills would be reported immediately to the District Environmental Health and Safety Office. Any hazardous waste on campus would be picked up and stored in a central location until a licensed hazardous waste contractor prepares the waste for segregation, packaging, and transport to an authorized hazardous waste disposal site. While the proposed project may result in the increase in routine transport, use, and disposal of hazardous materials and/or wastes generated by the additional student housing buildings, additional classroom and laboratory facility square footage, and building and landscape maintenance activities, all hazardous materials would be required to be managed in accordance with the

California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (22 CCR 4.5). With compliance with these regulations, the transport, use, and disposal of these materials would not pose a significant hazard to the public or the environment. Thus, impacts related to creation of a significant hazard to the public or the environment as a result of the proposed project would be less than significant.

Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Construction Impacts

As described above, construction activities on the project site would involve the use and storage of commonly used hazardous materials such as gasoline, diesel fuel, lubricating oil, grease, solvents, and other vehicle and equipment maintenance fluids. These materials would be used and stored in designated construction staging areas within the project site boundaries. These materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. In addition, the project would be required to comply with the Construction General Permit, which requires a SWPPP and development of BMPs for all phases of construction and potential pollutants generated by the construction activities. Consequently, the presence of these materials and the use of the materials for their intended purpose would not pose a significant risk to the public or environment. However, accidental spills or unauthorized releases of hazardous materials during construction, including ground clearing and road and foundation excavation, would potentially result in soil contamination.

Due to the age of the buildings, demolition activities could result in the release of contaminated materials and hazardous substances such as lead-based paint or asbestos. Potential release of these hazardous materials may expose construction workers and the public to potential health hazards during demolition and construction activities. Additionally, any proposed demolition of the Student Success Center and Chemistry building would be located near where the former LUSTs were identified. Impacted soils may still be present and therefore could be encountered during demolition, which could potentially expose construction workers and the public to hazardous conditions. Furthermore, the property was formerly used for agricultural purposes and residual pesticides and metals may still be present in the soil, which could also present a potentially hazardous condition.

Implementation of MM-HAZ-1 and MM-HAZ-2 would be required to reduce impacts related to accidental spills or unauthorized releases of hazardous materials, potential release of hazardous materials during the demolition of older buildings, and potential release of hazardous materials during ground-disturbing activities. Upon implementation of MM-HAZ-1 and MM-HAZ-2, impacts would be less than significant.

Operational Impacts

The types of hazardous materials associated with routine, day-to-day operation of the proposed project would include chemical reagents, solvents, fuels, paints, cleansers, and miscellaneous organics and inorganics that are used as part of building and grounds maintenance as well as vehicle maintenance. Chemical or hazardous material spills would be reported immediately to the District Environmental Health and Safety Office. Any hazardous waste on the project site would be picked up and stored in a central location until a licensed hazardous waste contractor prepares the waste for segregation, packaging, and transport to an authorized hazardous waste disposal site. While the proposed project may result in the increase in routine transport, use, and disposal of hazardous materials and/or wastes generated by the additional student housing buildings, additional classroom and laboratory facility square footage, and building and landscape maintenance activities, all hazardous materials would be required to be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (22 CCR 4.5). With compliance with these regulations, reasonably foreseeable upset and accident conditions involving the release of hazardous materials would not pose a significant hazard to the public or the environment. Thus, impacts related to creation of a significant hazard to the public or the environment as a result of the proposed project would be less than significant.

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

Construction Impacts

The proposed project would occur on the OCC campus. Additionally, Costa Mesa High School, Middle College High School, Public Junior High School, and Davis Elementary School are all within 0.25 mile of the OCC campus. As discussed above, the proposed project would handle relatively small amounts of hazardous materials during construction of the proposed project (e.g., lubricants, solvents, and paints), cleaning and other maintenance products (used in the maintenance of buildings and equipment), and diesel and other fuels (used in construction and maintenance equipment and vehicles). These materials would be handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. In addition, the project would be required to be under the Construction General Permit, which requires a SWPPP and development of BMPs for all phases of construction and potential pollutants generated by the construction activities.

However, as previously discussed, due to the potential for accidental spills or unauthorized releases of hazardous materials, potential release of hazardous materials during the demolition of older buildings, and potential release of hazardous materials during ground-disturbing activities, impacts to surrounding schools would be potentially significant; therefore, implementation of MM-HAZ-1 and MM-HAZ-2 would be required.

Operational Impacts

As previously discussed, day-to-day operation of the proposed project would include the use of chemical reagents, solvents, fuels, paints, cleansers, and miscellaneous organics and inorganics that are used as part of building and grounds maintenance as well as vehicle maintenance. All chemicals used on site would be required to be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (22 CCR 4.5). With compliance with these regulations, impacts to nearby schools would be less than significant.

Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would it create a significant hazard to the public or the environment?

According to the Hazards Assessment (Dudek 2013; Appendix H), 67 sites were identified within the ASTM-specified distances from the OCC campus. Thirty of the sites are listed in databases associated with permitting and hazardous material storage or disposal. Based on the information provided in the databases for these sites, it is unlikely that they have impacted the environmental conditions of the subject property. Thirty-two sites were identified in the LUST database that have received case closure. Given their closed status and information provided in the databases, they are unlikely to have impacted the environmental conditions on the OCC campus. Five sites identified in the LUST database are open cases. Given the distance to the OCC campus and/or their location, these sites are unlikely to have impacted the environmental conditions of the subject property.

Two LUST listings were identified on the OCC campus. Dudek reviewed records at the County Environmental Health Department regarding the releases. Both cases were due to fuel releases to soil and both cases are closed. Proposed demolition areas include the Student Success Center and Chemistry Building, near were former LUSTs were identified. While the case was closed by the County, impacted soil may still be present and therefore could be encountered during demolition. Furthermore, based on review of the aerial photographs, it is evident that property was formerly used for agricultural purposes. Residual pesticides and metals may still be present in the soil, which could also present a potentially hazardous condition. Since potentially hazardous conditions could exist due to disturbance of hazardous materials sites compiled pursuant to Government Code

Section 65962.5, impacts would be potentially significant and implementation of MM-HAZ-1 and MM-HAZ-2 would be required.

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

OCC's Emergency Operations Plan consists of a comprehensive plan that provides information on how the college plans to respond to a disaster or emergency conditions. Evacuation procedures are incorporated into the plan to direct students and visitors to safe places on campus and ultimately off campus in a coordinated, timely, and safe manner.

Construction Impacts

Construction of the proposed project could require the closure of adjacent and on-campus roadways during construction activities, which would have the potential to impact emergency evacuation procedures. A temporary construction plan may need to be prepared in order to identify alternative evacuation routes and to ensure that the construction site is designed in as safe a manner as possible. A primary goal of the plan would be to outline provisions for emergency vehicle movement at all times. The proposed project would be required to design, construct, and maintain structures, roadways, and facilities to comply with applicable local, regional, state, and/or federal requirements related to emergency access and evacuation plans. Permitting requirements mandate that the Fire Department and the Division of the State Architect perform an access compliance review and a fire and life safety review, respectively, prior to approval of individual project drawings and specification documents (OCC 2007). Therefore, emergency access would be ensured and the proposed project would not interfere with an adopted emergency response or evacuation plan. Impacts would be less than significant.

Operational Impacts

The proposed project may result in additional traffic on surrounding roadways. Additional traffic would increase the difficulty of evacuating the campus population in the event of an emergency. However, the proposed project is not anticipated to significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Permitting requirements mandate that the Fire Department and the Division of the State Architect perform an access compliance review and a fire and life safety review, respectively, prior to approval of individual project drawings and specification documents (OCC 2007). Therefore, emergency response and evacuation as a result of the proposed project would be adequately evaluated in order to ensure the safest possible conditions for students, staff, and visitors at the OCC campus. Implementation of the proposed project would not interfere with an adopted emergency response or evacuation plan. Impacts would be less than significant.

4.7.5 Mitigation Measures

The following mitigation measures would reduce identified impacts to hazards to less than significant.

MM-HAZ-1 Prior to demolition, a lead-based paint and asbestos survey shall be conducted by a California Occupational Safety and Health Administration-certified asbestos assessor and California Department of Health Services-certified lead-based paint assessor. The survey shall determine whether any on-site abatement of lead-based paint or asbestos containing materials is necessary. In addition, the survey shall include an abatement work plan prepared in compliance with local, state, and federal regulations for any necessary removal of such materials. The work plan shall include a monitoring plan to be conducted by a qualified consultant during abatement activities to ensure compliance with the work plan requirements and abatement contractor specifications. Demolition plans and contract specifications shall incorporate any necessary abatement measures for the removal of materials containing lead-based paint and asbestos to the satisfaction of the Planning and Building Department. The measures shall be consistent with the abatement work plan prepared for the project and conducted by a licensed lead/asbestos abatement contractor. If the survey and abatement plans have already been conducted/ prepared, then these documents need to be reviewed and implemented prior to demolition of any buildings.

In addition to an asbestos and lead paint survey, a qualified environmental specialist shall inspect the site buildings for the presence of polychlorinated biphenyls (PCBs), mercury, and other hazardous building materials prior to demolition. If found, these materials shall be managed in accordance with the Metallic Discards Act of 1991 (Public Resources Code, Sections 42160–42185) and other state and federal guidelines and regulations. Demolition plans and contract specifications shall incorporate any necessary abatement measures in compliance with the Metallic Discards Act, particularly Section 42175, Materials Requiring Special Handling, for the removal of mercury switches, PCB-containing ballasts, and refrigerants.

MM-HAZ-2 In the event that grading, construction, or operation of proposed facilities encounters evidence of contamination, Underground Storage Tanks (USTs), or other environmental concerns, a hazardous materials contingency plan shall be followed. The plan shall (1) specify measures to taken to protect worker and public health and safety and (2) specify measures to be taken to manage and remediate wastes. Although there is potential for soil contamination elsewhere on the property, the plan should highlight the current and former UST areas as potential areas of soil contamination. The plan should include the following:

- Identification of the current and former UST locations and identification of the known soil contamination left in place near the former UST(s)
- Procedures for temporary cessation of construction activity and evaluation of the level of environmental concern
- Procedures for limiting access to the contaminated area to properly trained personnel
- Procedures for notification and reporting, including internal management and local agencies (City of Costa Mesa Fire Department, County Environmental Health Department, air pollution control district, etc.), as needed
- A worker health and safety plan for excavation of contaminated soil
- Procedures for characterizing and managing excavated soils
- Procedures for certification of completion of remediation.

In addition to awareness of the contingency plan, grading and excavation staff shall be qualified or undergo training on how to identify suspected contaminated soil and USTs.

4.7.6 Level of Significance After Mitigation

Implementation of the mitigation measures listed above would reduce potentially significant impacts associated with hazards and hazardous materials to less than significant.

4.7.7 Cumulative Impacts

Cumulative impacts related to hazards and hazardous materials would result from projects that combine to increase exposure to hazards and hazardous materials. As described in Sections 4.7.1 through 4.7.6, the proposed project would have less than significant impacts with mitigation measures incorporated. The proposed project would comply with all federal, state, and local regulations pertaining to the use, transport, and release of hazardous materials. The potential release of hazardous materials during demolition of older buildings and ground-disturbing activities would be reduced in compliance with the mitigation measures outlined in Section 4.7.5. Although cumulative projects have the potential to result in significant impacts to hazards and hazardous materials, these projects would also be subject to federal, state, and local regulations that would help reduce potential impacts. Cumulative projects may also require similar mitigation measures to help further reduce potential impacts. Therefore, the proposed project combined with the listed cumulative projects would not result in a cumulative significant impact related to hazards and hazardous materials.

4.7.8 References

8 CCR 330–344.90. California Occupational Safety and Health Regulations.

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

19 CCR 2735.1–2785.1 and Appendix A. California Accidental Release Prevention (CalARP) Program Detailed Analysis.

22 CCR 66001–69407.2. Environmental Health Standards for the Management of Hazardous Waste.

24 CCR, Chapter 9. California Fire Code.

40 CFR 260–299. Hazardous Waste Management System: Implementation of Subtitles C and I of the Resource Conservation and Recovery Act.

15 U.S.C. 2601–2697. Toxic Substances Control Act of 1976.

42 U.S.C. 6901–6992. Resource Conservation and Recovery Act of 1976.

42 U.S.C. 9601–9675. Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

California Government Code, Sections 8550–8668. California Emergency Services Act.

California Government Code, Section 65962.5. “Cortese List” Statute.

California Health and Safety Code, Sections 25100–25258.2. Hazardous Waste Control Act.

California Health and Safety Code, Sections 25500–25543.3. Hazardous Materials Management.

City of Costa Mesa. 2000. *City of Costa Mesa 2000 General Plan, Chapter 8: Safety Element.* http://www.costamesaca.gov/modules/showdocument.aspx?documentid=6605.

District (Coast Community College District). 2011. *Hazards Mitigation Committee*.

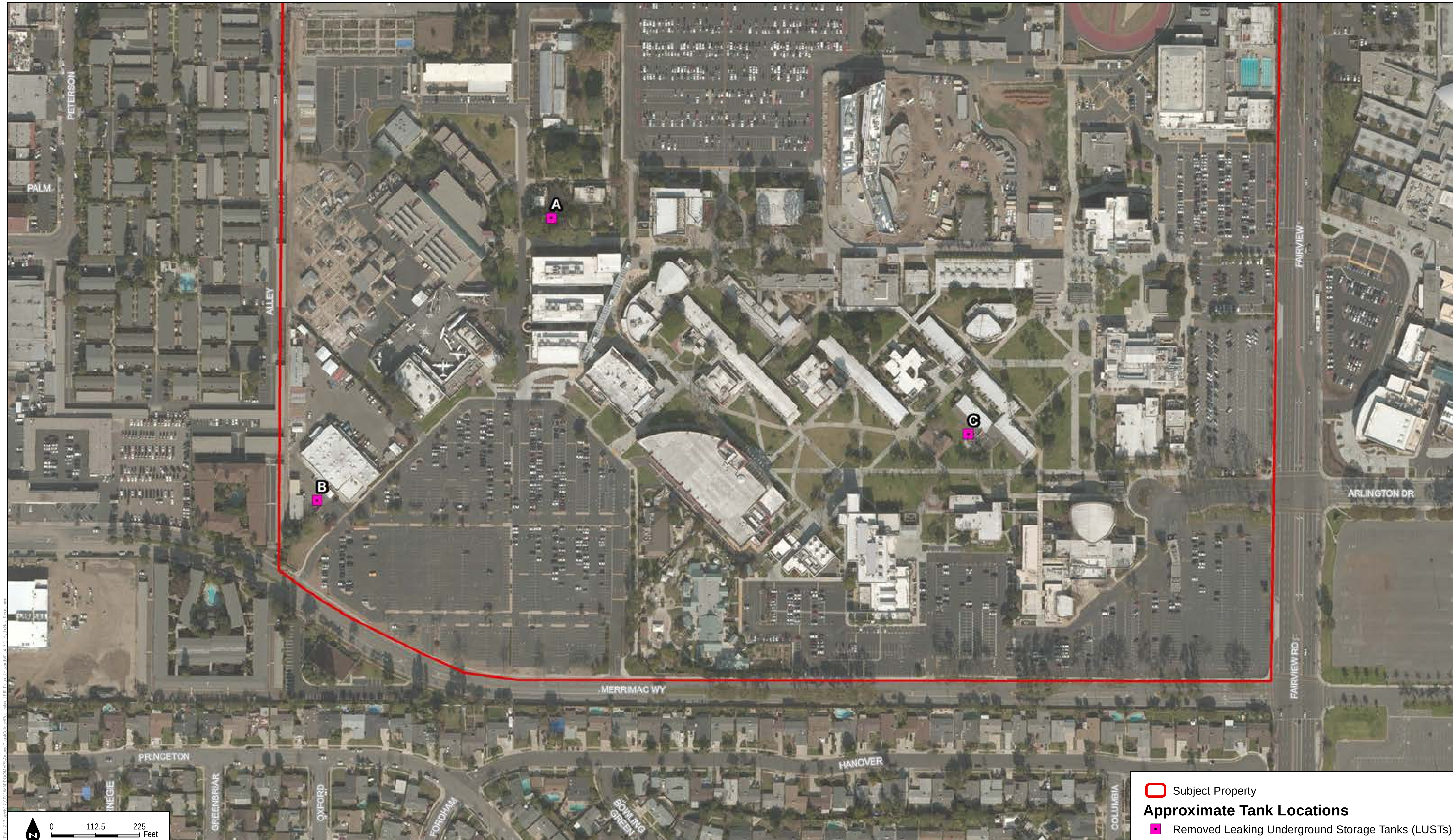
Dudek. 2014. *Hazards Assessment for Orange Coast College Program EIR: 2701 Fairview Road Costa Mesa, CA 92626.* January 10, 2014. Encinitas, California: Dudek.

ICC (International Code Council). 2012. International Fire Code.

OCC (Orange Coast College). 2007. *Program Environmental Impact Report for Orange Coast College Master Plan.* February 2007.

PL 98-616. Hazardous and Solid Waste Act. November 8, 1984.

Public Resources Code, Sections 42160–42185. Metallic Discards Act of 1991.



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SOURCE: Bing Imagery, 2015; Coast Community College Vision Plan, 2012; County of Orange.

FIGURE 4.7-1

Removed Leaking Underground Storage Tank Locations

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4.8 HYDROLOGY AND WATER QUALITY

This section evaluates the potential impacts of the Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project) on hydrology and water quality. This evaluation includes an assessment of the direct, indirect, short-term, and long-term effects of the proposed project on surface water, flow patterns, flow rates, and water quality. The evaluation is based on data, publications, and resources provided by public agencies such as the State Water Resources Control Board (SWRCB), the Santa Ana Regional Water Quality Control Board (RWQCB), and the Orange County (OC) Stormwater Program.

4.8.1 Existing Conditions

Regional Hydrography

The climate within coastal central Orange County is characterized by mild winters and warm summers. According to the Western Regional Climate Center, the closest weather station to the project site is Newport Beach Harbor, which has recorded average annual temperatures between 54.6°F and 67.8°F and average annual precipitation as 11 inches (WRCC 2013). With the exception of rare localized summertime convective storms, the majority of precipitation occurs between the months of November and April, predominantly in the form of light- to moderate-intensity rain events lasting no more than 1 to 2 days.

OCC (the project site) is located within the jurisdiction of the Santa Ana RWQCB (Region 8), which administers a water quality control plan (Basin Plan) and other water quality programs within the Santa Ana River Basin. The Santa Ana River Basin is a 2,800-square-mile area between the Los Angeles and San Diego RWQCBs that encompasses a group of connected inland basins and open coastal basins drained by surface streams that flow in a generally southwesterly direction to the Pacific Ocean (Figure 4.8-1). The boundaries of the Santa Ana River Basin are demarcated partly by physical watershed divides and partly by administrative boundaries (i.e., Orange County/Los Angeles County line) (Santa Ana RWQCB 2008). The Santa Ana RWQCB divides the Santa Ana River Basin into hydrologic units, hydrologic areas, and hydrologic subareas for the purpose of water quality planning. OCC is located within the Santa Ana River Hydrologic Unit, the Lower Santa Ana River Hydrologic Area, and the East Coastal Plain Hydrologic Subarea (Hydrologic Unit No. 801.110). Similar to the Santa Ana River Basin, these hydrologic planning areas are generally, but not necessarily, coincident with regional/local watershed boundaries. Although the site is within the Santa Ana River Hydrologic Unit, surface water runoff does not actually flow to the Santa Ana River; rather, drainage is directed to Upper Newport Bay, which is located several miles south of the Santa Ana River's outlet to the Pacific Ocean.

Watershed Characteristics

OCC is on the coastal portion of the Santa Ana River Basin atop a coastal terrace that is tilted slightly to the north. The coastal watersheds within Orange County have been extensively altered by urban development such that surface water drainage has generally been directed to underground storm water pipelines that discharge to concrete, earthen, or otherwise engineered channels for eventual delivery to the Pacific Ocean, or in the case of the project area, to Upper Newport Bay. The highly urbanized nature of the watersheds poses several problems from both a hydrologic and water quality standpoint. For example, peak flows within the watershed have faster arrival times and are higher in magnitude than would occur under natural conditions in response to large rain events. The wide coverage of impervious surfaces also reduces the extent to which rainfall infiltrates into the ground and recharges the underlying groundwater aquifer.

According to the OC Stormwater Program, the project site is within the Newport Bay Watershed, which encompasses an area of approximately 154 square miles with overland flows draining toward the Pacific Coast into Upper Newport Bay (County of Orange 2007). The Tustin Plain, a broad alluvial valley, occupies the major portion of the watershed. Major cities within the watershed include Newport Beach, Irvine, Tustin, and portions of Orange, Lake Forest, Laguna Hills, Costa Mesa, and Santa Ana. The watershed has been rapidly urbanizing over the past two decades, with large tracts of agricultural land being transformed into commercial and residential uses. Other land uses include light industrial, county and state open spaces, and federal properties (County of Orange 2007).

The principal watercourse of the Newport Bay Watershed is San Diego Creek, which has a drainage area that covers approximately 122 square miles of the Newport Bay Watershed. The main tributary to San Diego Creek is Peters Canyon Wash; smaller tributaries include Serrano Creek, Borrego Creek, Agua Chinon Wash, Bee Canyon Wash, Sand Canyon Wash, and Bonita Canyon Creek. The Santa Ana–Delhi Channel Subwatershed—into which the project area drains—covers approximately 17 square miles. The channel is an artificial drainage that conveys water from the city of Santa Ana and portions of Costa Mesa into Upper Newport Bay. San Diego Creek and the Santa Ana–Delhi Channel are the major inputs into Upper Newport Bay. The San Diego Creek Watershed accounts for roughly 80% and the Santa Ana–Delhi Channel for about 15% of discharges into Upper Newport Bay, with the balance from other small tributaries (County of Orange 2007). The Santa Ana–Delhi Channel watershed is fully urbanized, with about 95% of it covered by urban land uses.

As shown in Table 4.8-1, the present or potential beneficial uses designated within the Newport Bay Watershed by the Santa Ana RWQCB are as follows: water contact recreation; non-contact water recreation; commercial and sport fishing; wildlife habitat; rare, threatened, or endangered species; spawning, reproduction, and development; marine habitat; preservation of biological habitats of special significance; estuarine habitat; and shellfish harvesting. The present or potential beneficial use of navigation is also designated in the Basin Plan for Lower Newport Bay.

Table 4.8-1
Beneficial Uses of Relevant Water Bodies

Beneficial Use	Upper Newport Bay	Lower Newport Bay	Ocean Waters (at Newport Bay)
Municipal and domestic supply (MUN)	+	+	
Navigation (NAV)		X	X
Water contact recreation (REC 1)	X	X	X
Non-contact water recreation (REC 2)	X	X	X
Commercial and sports fishing (COMM)	X	X	X
Preservation of biological habitats of special significance (BIOL)	X		
Wildlife habitat (WILD)	X	X	
Rare, threatened, or endangered species (RARE)	X	X	
Spawning, reproduction, and development (SPWN)	X	X	
Marine habitat (MAR)	X	X	
Shellfish harvesting (SHEL)	X	X	X
Estuarine habitat (EST)	X		

Source: Santa Ana RWQCB 2008.
X = present or potential beneficial use; + = waterbody has been specifically excepted from the MUN designation in accordance with the criteria specified in the "Sources of Drinking Water Policy."

Newport Bay is a combination of two distinct bodies of water, termed "Lower" and "Upper" Newport Bay, which are separated by the Pacific Coast Highway Bridge. The 1,000-acre Upper Newport Bay is a drowned river valley that is geologically much older than the 752-acre Lower Bay, which was formerly a coastal lagoon (County of Orange 2007). The Upper Bay is an estuary that is bounded by the high bluffs of the San Joaquin Terrace on the east and the Newport Mesa on the west. The primary drainage course to Newport Bay is San Diego Creek, where discharge is perennial but highly variable throughout the year. Flows generally average about 30 cubic feet per second (cfs) during the dry summer months, and storm runoff can exceed 30,000 cfs during extreme events (County of Orange 2007). The cumulative effects of this freshwater flow into the Upper Bay means that its salinity is generally less than ocean salinity (brackish) most of the time.

The project area is within the Santa Ana–Delhi Channel Subwatershed and would not affect flows or water quality constituents within San Diego Creek, since the Santa Ana–Delhi Channel flows directly into Upper Newport Bay. Table 4.8-2 presents historical records of precipitation, average and peak flow rates, and sediment discharge within the Santa Ana–Delhi Channel.

Table 4.8-2
Precipitation, Flow, and Sediment Discharge at Santa Ana–Delhi Channel

Year Ending	Total Precipitation (inches)	Precipitation, Daily Max (inches)	Daily Water Discharge, Daily Max (cfs)	Sediment Discharge, Daily Max (tons)
1999	8.6	1.09	165	—
2000	8.79	1.26	182	—
2001	14.57	2.95	473	144
2002	4.22	0.46	69	30
2003	15.6	3.14	544	215
2004	8.41	2.31	375	138
2005	30.95	3.3	663	436
2006	44.62	1.37	129	84
2007	3.48	0.52	35	7

Source: County of Orange 2007.
cfs = cubic feet per second

On-Site Drainage Patterns

Surface water runoff from the project site consists primarily of surface water runoff generated within the boundaries of OCC, with minimal off-site surface flow contribution. Surface water runoff due to storm events or site activities flows through the storm drain system and is eventually discharged to the Upper Newport Bay and the Pacific Ocean. The OCC campus is made up of a combination of pervious and impervious surfaces that influence where and how quickly stormwater collects and drains. Based on vegetation mapping of the site, the impervious surfaces on site, which consist of structures, paved walkways, and parking lots, make up approximately 119 acres. There are 44 pervious acres on site, which include vacant lots, ornamental landscaping, and lawns. Overall, impervious surfaces currently make up approximately 73% of the campus, with the rest consisting of landscaped areas and/or vacant lots.

Figure 4.8-2 shows the existing storm drainage system at OCC, and the direction of stormwater flow paths that eventually discharge to Upper Newport Bay. A pair of existing City of Costa Mesa (City) storm drain trunk lines, a 54-inch-diameter line and a 66-inch-diameter line, run north–south through the campus in a 25-foot-wide easement between the Technology and Horticulture Buildings. These two storm drains connect to a 6-foot by 10-foot reinforced concrete box culvert on the north side of Adams Avenue (north of campus). They also connect to an existing box culvert at Merrimac Way on the south side of campus. Drainage of these two pipes flows from south to north. The two pipes are connected at several locations on campus with 12-inch pipes to equalize flow between the storm drains. A portion of the existing campus storm drain system that generally drains the western third of the campus connects these two trunk lines at half a dozen locations.

A City-owned 66-inch storm drain line also runs north–south in Fairview Road. On-site storm drains drain the eastern two-thirds of the campus and discharge stormwater runoff to the 66-inch City-owned storm drain line at several locations. Small drainage areas around the periphery of the campus discharge small amounts of runoff to the street. As shown in Figure 4.8-2, the City storm drain trunk lines on either side of the campus discharge to the Paularino Channel north of Adams Avenue in Costa Mesa.

Surface Water Quality

The Upper Newport Bay receives urban runoff from the Newport Bay Watershed and is designated as "water quality limited" for nine impairments under the federal Clean Water Act's (CWA's) Section 303(d) (33 U.S.C. 1251 et seq.) (Table 4.8-3). Being "water quality limited" means that a water body is "not reasonably expected to attain or maintain water quality standards" without additional regulation. The law requires that the U.S. Environmental Protection Agency (EPA) develop total maximum daily loads (TMDLs) for each impaired water body in the nation, which specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards. A TMDL may also include a plan for bringing an impaired water body back within standards.

The Santa Ana RWQCB has set water quality objectives for all surface waters in the Santa Ana River Basin for constituents including ammonia, bacteria, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity. In addition, specific objectives for concentrations of chemical constituents are applied to bodies of water based on their designated beneficial uses (Santa Ana RWQCB 2008).

The most recently approved Section 303(d) List of Water Quality Limited Segments, as listed in the 2010 Integrated Report (SWRCB 2013), lists Upper Newport Bay as an impaired water body under Section 303(d) of the CWA. Pursuant to listing, the Santa Ana RWQCB has developed TMDLs for sedimentation/siltation, indicator bacteria, nutrients, and pesticides, but has yet to develop TMDLs for other constituents, such as DDT, PCBs, and metals. In addition, the Santa Ana–Delhi Channel is designated as impaired for indicator bacteria. In June 2002, the EPA promulgated the toxics TMDL for the entire watershed.

Table 4.8-3
CWA Section 303(d) Impairments

Name	Pollutant/Stressor	Potential Sources	TMDL Status	Year
Santa Ana–Delhi Channel	Indicator bacteria	Source unknown	Scheduled	2021
Newport Bay, Lower	Chlordane	Source unknown	Scheduled	2019
	Copper	Source unknown	Scheduled	2007
	DDT	Source unknown	Scheduled	2019
	Indicator bacteria	Source unknown	Approved	2000
	Metals	Urban runoff/storm sewers	Scheduled	2019
	Nutrients	Source unknown	Approved	1999
	PCBs	Source unknown	Scheduled	2019
	Pesticides	Agriculture, unknown non-point source	Approved	2004
	Sediment toxicity	Source unknown	Scheduled	2019
Upper Newport Bay Ecological Reserve	Chlordane	Source unknown	Scheduled	2019
	Copper	Source unknown	Scheduled	2007
	DDT	Source unknown	Scheduled	2019
	Indicator bacteria	Source unknown	Approved	2000
	Metals	Urban runoff/storm sewers	Scheduled	2019
	Nutrients	Source unknown	Approved	1999
	PCBs	Source unknown	Scheduled	2019
	Pesticides	Agriculture, unknown non-point source	Approved	2004
	Sediment toxicity	Source unknown	Scheduled	2019
	Sedimentation/ siltation	Agriculture, channel erosion, construction/land development, erosion/siltation	Approved	1999

Source: SWRCB 2013.
TMDL = total maximum daily load; DDT = dichlorodiphenyltrichloroethane; PCB = polychlorinated biphenyl

The following describes the impairments for sediment, bacteria, and toxicity only, because potential contributions associated with proposed project activities would be limited to sediment (exposed soils), bacteria, metals (parking lots), nutrients (landscaping), and possibly herbicides (if improperly applied). No element of the project would contribute to any of the other identified impairments.

Sediment

In March 1999 the Santa Ana RWQCB approved a sediment TMDL for the Newport Bay Watershed to address water quality impairment due to excessive sedimentation. The TMDL for sediment requires implementation and maintenance of sediment control measures aimed at ensuring that existing habitat acreages of Upper Newport Bay are not significantly changed and sediment discharges in the watershed are reduced by 50% over a multiple-year period. The long-term goal of the sediment TMDL is to reduce the frequency of dredging Upper Newport Bay to once every 20 to 30 years.

Quantifiable targets of the TMDL are to do the following:

- Reduce the annual average sediment load from a total of 250,000 tons per year to 125,000 tons per year, thereby reducing the sediment load to Newport Bay to 62,500 tons per year and limiting sediment deposition in the drainages to 62,500 tons per year.
- Maintain the existing acreages of aquatic, wildlife, and rare and endangered species habitat in the Bay.
- Maintain a minimum depth of 7 feet below mean sea level in Units I and II of the Bay.
- Maintain 50% available storage capacity levels of the in-channel and foothill basins (City of Newport Beach 2009).

In November 1999 the Santa Ana RWQCB subsequently adopted Monitoring and Reporting Program No. 99-74, which requires monitoring, surveys, and reporting in accordance with the requirements of the sediment TMDL. The sediment monitoring and maintenance program consists of two study area elements: (1) the Upstream Monitoring Element, which includes those activities performed in the San Diego Creek Watershed upstream of Jamboree Road Bridge and in the Santa Ana–Delhi Channel, and (2) the Newport Bay Monitoring Element, which includes those activities performed in Upper Newport Bay.

An annual report is submitted to the Santa Ana RWQCB by November 15 of each year verifying that the in-channel and foothill basins have at least 50% design capacity available for the upcoming storm season. The TMDL Annual Report (a compilation of sediment monitoring data and TMDL compliance analysis) is to be submitted by February 27 of each year. In general, the available data suggests that sediment loads in the Newport Bay/San Diego Creek Watershed have been reduced significantly from rates recorded in the pre-TMDL period and that the target reduction is being attained. The suspended sediment discharge to Upper Newport Bay for the July 1, 2008, through June 30, 2009, period as calculated from monitoring stations in San Diego Creek at Campus Drive, Santa Ana–Delhi Channel at Irvine Avenue, and Bonita Creek Channel at MacArthur Boulevard, was 17,135 tons. The suspended sediment load average for the 10-year period since approval of the TMDL (2000–2009) as measured at the San Diego Creek at Campus Drive monitoring station is approximately 42,308 tpy. The San Diego Creek at Campus Drive monitoring station represents the majority (~90%–98%) of sediment discharges to Upper Newport Bay, depending on the water year.

Nutrients

Excess nutrients flowing into Upper Newport Bay, primarily from San Diego Creek, have resulted in seasonal algae blooms that have impaired the bay's environment and enjoyment of this important natural resource. The nutrients of concern are nitrogen and phosphorous, which are both essential for plant growth and necessary for healthy ecological functions in the bay.

However, high nutrient concentrations can cause excessive plant growth, including algae. This can lead to a problem called eutrophication, a condition in which excessive plant growth from nutrient enrichment impairs the capacity of a water body to sustain healthy ecological functions. This can lead to aesthetic problems, habitat loss, and poor biological diversity, among other adverse effects. Both nitrogen and phosphorous occur in nature, but eutrophication usually results from human activities that promote the input of these nutrients into our water bodies. Some sources of these nutrients include agriculture, excessive garden or lawn fertilization, and pet waste.

In 1998, the Santa Ana RWQCB adopted a TMDL for nutrients in the Newport Bay Watershed to decrease the mass of nutrients flowing into the bay, thus restoring and protecting its beneficial uses. Beneficial uses are assigned to every water body in the United States as a means of systematically assessing the quality of the nation's surface waters, as required by the federal CWA. If a water body's beneficial uses are impaired, then the water body is deemed impaired and requires restoration measures. The TMDL establishes maximum nutrient loads (targets) at levels similar to those observed in the 1970s, prior to observations of eutrophic conditions.

In February 2000, a Regional Nutrient Monitoring Program for the Newport Bay Watershed was initiated by the County of Orange (County) on behalf of the watershed cities (Costa Mesa, Irvine, Laguna Hills, Laguna Woods, Lake Forest, Newport Beach, Orange, Santa Ana, and Tustin), as mandated by the TMDL, to assess compliance with the required nutrient reductions. The Regional Nutrient Monitoring Program is composed of routine and special monitoring components. The routine monitoring component consists of weekly, biweekly, or monthly collection of water samples from sites throughout the watershed and monthly collection of algae samples from Upper Newport Bay.

Toxics

Toxic pollutants are different from conventional pollutants such as sediment and bacteria in that they can cause biological impairment at low concentrations due to their high toxicity. Many toxic pollutants tend to bioaccumulate. In other words, their concentrations will increase along the food chain. Many toxics are persistent and tend to attach onto suspended and bedded sediments. Thus, the period of impact can greatly exceed the period of discharge.

In 2002, the EPA established TMDLs for toxic pollutants in San Diego Creek and Newport Bay. Referred to as the toxics TMDLs, it covers 14 toxic pollutants for the San Diego Creek/Newport Bay Watershed. The compounds include chlorpyrifos, chlordane, DDT, PCBs, and toxaphene. The Santa Ana RWQCB is currently dividing the toxics TMDL into five separate TMDLs based primarily on chemical class, and developing individual implementation plans for each TMDL. These TMDLs include the following:

- Organophosphate pesticides (diazinon, chlorpyrifos)
- Selenium
- Organochlorine compounds (chlordane, dieldrin, DDTs, PCBs, toxaphene)
- Metals (cadmium, copper, lead, zinc)
- Rhine Channel (copper, lead, selenium, zinc, chromium, mercury).

Development of the selenium TMDLs and selenium site-specific objectives (SSOs) are being supported by the efforts by the Nitrogen and Selenium Management Program, which is a watershed-wide collaborative effort to address nitrogen and selenium issues. The County is responsible for administering and managing the Nitrogen and Selenium Management Program, as well as serving as chair of the program. As the program continues, it will be the primary mechanism for achieving compliance with the nitrogen and selenium TMDLs for Newport Bay.

Groundwater Hydrology and Quality

The Coastal Plain of the Orange County Groundwater Basin (OC Basin) underlies a coastal alluvial plain in the northwestern portion of Orange County. The basin is bounded by consolidated rocks exposed on the north in the Puente and Chino Hills, on the east in the Santa Ana Mountains, and on the south in the San Joaquin Hills. The basin is bounded by the Pacific Ocean on the southwest and by a low topographic divide approximated by the Orange County–Los Angeles County line on the northwest. The basin underlies the Lower Santa Ana River Watershed. The OC Basin is dominated by a deep structural depression containing a thick accumulation of freshwater-bearing interbedded marine and continental sand, silt, and clay deposits (DWR 2004).

The OC Basin is a three-aquifer system, consisting of shallow, principal, and deep aquifers. As of 1998, the total groundwater storage capacity of the basin was estimated at 38 million acre-feet (DWR 2004). The upper aquifer system consists of Holocene alluvium, older alluvium, stream terraces, and upper Pleistocene deposits represented by the La Habra Formation (DWR 2004). The average thickness of the upper aquifer system is 800 feet (DWR 2004). The upper aquifer system contains a lower percentage of water-bearing strata in the northwest and coastal areas, because clays and clayey silts dominate these areas. According to a Hazards Assessment completed for the proposed project, the depth to water in the area is approximately 77 feet below ground surface (Dudek 2014). The upper aquifer system provides most of the irrigation water for the overlying areas (DWR 2004). The average thickness of the middle aquifer is 1,600 feet and provides 90% to 95% of the groundwater produced from the basin (DWR 2004). The lower aquifer system consists of the Upper Fernando Group of Upper Pliocene age and is composed of sand and conglomerate 350 to 500 feet thick (DWR 2004). The lower aquifer system is not widely used as it has colored water issues; however, both Irvine Ranch Water District and the Mesa Consolidated Water District (MCWD) are operating colored water treatment facilities.

Flood Hazards

Flood zones for the 100-year and 500-year flood are mapped in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. Storm drainage and flood control for the existing project site are accommodated by a combination of City and County facilities. Figure 4.8-2 shows the 100- and 500-year flood zones in the project area (equivalent to a 1% and 0.2% annual chance flood, respectively) and demonstrates that OCC is not located in a Special Flood Hazard Area subject to inundation by either a 100-year or a 500-year flood (FEMA 2013). However, localized urban flooding, such as ponding, can occur in instances where heavy rains clog storm drains with debris or when their capacity is exceeded.

4.8.2 Relevant Plans, Policies, and Ordinances

Federal and State Water Quality Objectives

The statutes that govern the activities under the project that may affect water quality are the federal CWA (33 U.S.C. 1251 et seq.) and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (California Water Code, Section 13000 et seq.). These acts provide the basis for water quality regulation in the project area.

The California Legislature has assigned the primary responsibility for administering and enforcing statutes for the protection and enhancement of water quality to the SWRCB and its nine RWQCBs. The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of state and federal regulations. The nine RWQCBs throughout California adopt and implement water quality control plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The RWQCB adopts and implements a Basin Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (California Water Code, Sections 13240–13247). These plans and policies filter down to the local level because the Basin Plans and National Pollutant Discharge Elimination System (NPDES) permits require cities and counties to incorporate water quality protection measures into their ordinances and permitting processes. The project area is located within the jurisdiction of the Santa Ana RWQCB.

Table 4.8-4 lists the major water quality-related regulations that apply to most projects with land-disturbing activity proposed within Orange County. These permits are issued statewide by the SWRCB and implemented throughout the state by the RWQCBs; other permits, like dewatering or de minimus permits, are issued and implemented on a region-by-region basis. Additionally, the RWQCBs issue municipal separate storm sewer system (MS4) permits to the County and cities that include additional requirements for managing construction sites.

Table 4.8-4
State and Regional Water Quality-Related Permits and Approvals

Program/Activity	Order Number/ NPDES Number	Permit Name	Affected Area
Construction stormwater program	2009-0009-DWQ/ CAS000002	NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit)	Statewide
Municipal stormwater program	R8-2009-0030/ CAS618030	Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the Incorporated Cities of Orange County within the Santa Ana Region (MS4 Permit for Santa Ana Region)	Santa Ana Region within Orange County
	2013-0001-DWQ/ CAS000004	General Permit for the Discharge of Storm Water from Small MS4s	OC Fair & Event Center
Industrial stormwater program	2014-0057-DWQ /CAS000001	Industrial Storm Water General Permit	Recycling Center Expansion
Discharge to land	2003-0003-DWQ	Statewide General WDRs for Discharges to Land with a Low Threat to Water Quality (WDR for Discharge to Land)	Statewide
Groundwater dewatering	R8-2007-0041/ CAG918002	General Discharge Permit for Discharges to Surface Waters of Groundwater Resulting from Groundwater Dewatering Operations and/or Groundwater Cleanup Activities at Sites within the San Diego Creek/Newport Bay Watershed Polluted by Petroleum Hydrocarbons, Solvents, Metals and/or Salts (Dewatering Permit for Santa Ana Region)	Santa Ana Region within Orange County
Potable water	R8-2009-0003/ CAG998001	General WDRs for Discharges to Surface Waters That Pose an Insignificant (de minimus) Threat to Water Quality (de minimus WDRs for Santa Ana Region)	Santa Ana Region within Orange County

NPDES = National Pollutant Discharge Elimination System; MS4 = municipal separate storm sewer system;; WDR = Waste Discharge Requirement

Beneficial Use and Water Quality Objectives (CWA, Section 303)

The Santa Ana RWQCB is responsible for the protection of the beneficial uses of waters within southwestern San Bernardino County, western Riverside County, and northwestern Orange County. The Santa Ana RWQCB uses its planning, permitting, and enforcement authority to meet this responsibility and has adopted the Basin Plan to implement plans, policies, and provisions for water quality management (Santa Ana RWQCB 2008). The Basin Plan also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make up the water quality standards for the region.

The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." Under Section 303(d) of the CWA, the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. California is required to establish TMDLs for each pollutant/stressor. A TMDL defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards.

The existing and potential beneficial uses designated in the Basin Plan, water quality impairments, and relevant TMDLs within Newport Bay and San Diego Creek are described in Section 4.8.1, Existing Conditions, and shown in Table 4.8-1.

Water Quality Certification (CWA, Section 401)

Section 401 of the CWA requires that an applicant for any federal permit (e.g., a U.S. Army Corps of Engineers (ACOE) Section 404 permit) obtain certification from the state that the discharge would comply with other provisions of the CWA and with state water quality standards. For example, an applicant for a permit under Section 404 of the CWA must also obtain water quality certification per Section 401 of the CWA. Section 404 of the CWA requires a permit from the ACOE prior to discharging dredged or fill material into waters of the United States, unless such a discharge is exempt from CWA Section 404.[1] For the project area, the Santa Ana RWQCB must provide the water quality certification required under Section 401 of the CWA. Water quality certification under Section 401 of the CWA, and the associated requirements and terms, is required in order to minimize or eliminate the potential water quality impacts associated with the action(s) requiring a federal permit.

According to the Biological Resources Letter Report prepared by Dudek (2013), there were no jurisdictional wetlands, non-wetland waters, or riparian habitats identified in or across the project site. Therefore, implementation of the proposed project activities would not result in impacts to state and federally jurisdictional waters (and wetlands) or riparian habitat. Therefore, it is not anticipated that a permit under Section 404 of the CWA or certification per Section 401 will be needed.

NPDES Program (CWA, Section 402)

The CWA was amended in 1972 to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p), which establishes a

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[1] The term "waters of the United States" as defined in the Code of Federal Regulations (40 CFR 230.3(s)) includes all navigable waters and their tributaries.

framework for regulating municipal and industrial stormwater discharges under the NPDES program. In November 1990, the EPA published final regulations that also establish stormwater permit application requirements for discharges of stormwater to waters of the United States from construction projects that encompass 5 acres or more of soil disturbance. Regulations that became final on December 8, 1999 (Phase II Rule), expanded the existing NPDES program to address stormwater discharges from construction sites that disturb land equal to or greater than 1 acre and less than 5 acres (small construction activity). The regulations also require that stormwater discharges from small MS4s be regulated by an NPDES permit. The primary NPDES permits applicable to similar types of projects in the region are described below.

Construction General Permit (SWRCB Order 2009-09-DWQ (as amended). For stormwater discharges associated with construction activity in the state of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (SWRCB Order 2009-0009-DWQ; or Construction General Permit) in order to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit applies to all projects where construction activity disturbs 1 acre or more of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP), which would include and specify best management practices (BMPs) designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off site into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed for sediment on the Section 303(d) list of impaired waters.

If the land disturbance associated with the project would be more than 1 acre, the proposed project will be subject to the requirements of the Construction General Permit. The SWRCB requires that when determining the ground disturbance of a proposed project, the whole of the action must be included: projects that are phased or that involve components that are geographically separated must be considered together when part of the same plan of development. Broad planning documents, such as land use master plans, conceptual master plans, or vision plans, are not considered common plans of development due to their conceptual nature. As projects proceed beyond the conceptual stages, however, and demolition plans, grading plans, building plans, and/or contract documents are developed, the boundaries of the common plan of development would be used to determine whether coverage under the Construction General Permit is required.

Orange County MS4 Permit (Santa Ana RWQCB Order No. R8-2009-0030 (as amended). Within the purview of the MS4 permit requirements, the municipalities (permittees) of Orange County have jurisdiction over and/or maintenance responsibility for stormwater conveyance systems that they own. The 2007 Drainage Area Management Plan (DAMP) was developed by the permittees in response to the requirements of the MS4 permit. It contains model programs and guidance for complying with the MS4 permit requirements, including a model water quality management plan (WQMP) for use by each permittee in developing its individual stormwater programs. To describe in detail how the model programs of the 2007 DAMP are being implemented on a local level, each permittee, including the City of Costa Mesa, has adopted a Local Implementation Plan. General plan policies and ordinance codes (water quality, grading, fats/oils/grease) have been adopted and/or updated to meet MS4 permit requirements and establish necessary legal authority. This combination of programs, policies, and legal authority is used to ensure that pollutant loads resulting from urbanization are properly controlled and managed.

The MS4 permit identifies the Santa Ana–Delhi channel as an inland surface stream. The Coast Community College District (District) is not one of the listed permittees and thus is not technically subject to the requirements of the Orange County MS4 permit. However, agencies such as the District, which are not permittees under the Orange County MS4 Permit, are encouraged to participate in implementing the Orange County NPDES Storm Water Program. The Santa Ana RWQCB has the discretion and authority to require certain non-cooperating entities to participate in this area-wide permit or obtain individual stormwater discharge permits, pursuant to 40 CFR 122.26(a).

General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ). On April 30, 2003, as part of Phase II of the MS4 program, the SWRCB issued a General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities (population less than 100,000), including non-traditional small MS4s, which are facilities such as military bases, public campuses, and prison and hospital complexes. The Phase II Small MS4 General Permit covers Phase II permittees statewide; listed non-traditional permittees include the Orange County (OC) Fair & Event Center but does not include the OCC campus or the District. On February 5, 2013, the Phase II Small MS4 General Permit was adopted and became effective on July 1, 2013.

Industrial Storm Water General Permit Order 2014-0057-DWQ **(General Industrial Permit).** The General Industrial Permit is an NPDES permit that regulates discharges associated with 10 broad categories of industrial activities. The General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology (BAT) economically achievable and best conventional technology (BCT) for pollutant control. The General Industrial Permit also requires stormwater dischargers to implement minimum BMPs; electronically file all permit registration documents via the SWRCB's Storm Water Multiple Application and Report Tracking System; comply with new training expectations and roles for qualified industrial stormwater practitioners; sample to detect exceedance of annual and instantaneous numeric action levels; develop and implement exceedance response actions if annual or instantaneous numeric action levels are exceeded; monitor for parameters listed under CWA Section 303(d); design treatment control BMPs for flow- and volume-based criteria; and understand new criteria, sampling protocols, and sampling frequency for qualifying storm events.. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce stormwater pollution are described. The General Industrial Permit requires that an annual report be submitted each July 1. Facility operators may be able to participate in a group monitoring program.

Attachment 1 of the General Industrial Permit lists industrial facilities covered by the permit, among which are recycling facilities engaged in assembling, breaking up, sorting, and wholesale distribution of scrap and waste material such as bottles, wastepaper, textile wastes, oil waste, etc. Because the District proposes to expand the existing Recycling Center on the OCC campus for the purposes of accommodating recycling demand in the City, the Recycling Center will be subject to the requirements of the General Industrial Permit.

General Permit Order for Dewatering Wastes into the San Diego Creek/Newport Bay Watershed (Santa Ana RWQCB Order R8-2007-0041 (as amended). The RWQCB has adopted Santa Ana RWQCB Order R8-2007-0041 (as amended by Order No. R8-2009-0045), which regulates the following types of discharges in the watershed:

1. Short-term (1 year or less in duration) discharges from activities involving groundwater extraction and discharge, including:
    a. Wastes associated with well installation, development, test pumping, and purging
    b. Aquifer testing wastes
    c. Dewatering wastes from subterranean seepage
    d. Groundwater dewatering wastes at construction sites
2. Discharges that pose an insignificant threat to water quality, including:
    e. Construction dewatering wastes not involving groundwater (except stormwater dewatering at construction sites)
    f. Discharges resulting from the maintenance of potable water supply pipelines, tanks, reservoirs, etc.
    g. Discharges resulting from disinfection of potable water supply pipelines, tanks, reservoirs, etc.

h. Discharges resulting from diverted stream flows

i. Other similar types of discharges which pose a de minimus threat to water quality, yet technically must be regulated under waste discharge requirements (WDRs).

3. Wastewater effluent associated with testing of selenium and nitrogen treatment technologies and BMPs.

Under this permit, discharges of wastes are prohibited from causing a violation of any applicable water quality standards for receiving waters adopted by the RWQCB or SWRCB as required by the CWA. Therefore, discharges are not permitted to cause any of the following:

- The undesirable discoloration of the receiving waters
- The presence of objectionable odors in the receiving water
- The presence of visible oil, grease, scum, or floating or suspended material or foam in the receiving waters
- The deposition of objectionable deposits along the banks or the bottom of the stream channel
- The depletion of the dissolved oxygen concentration below 5 milligrams per liter (mg/L) in the receiving water; if the ambient dissolved oxygen concentration is less than 5 mg/L, the discharge shall not cause further depression
- An increase in the temperature of the receiving waters above 90°F (32°C), which normally occurs during the period of June through October, nor above 78°F (26°C) during the rest of the year
- A change in the ambient pH levels of more than 0.5 pH units
- The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving waters
- The bioaccumulation of chemicals in aquatic resources to levels harmful to human health.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (codified in the California Water Code, Section 13000 et seq.) is the basic water quality control law for California. As mentioned above, it is implemented by the SWRCB and the nine RWQCBs. The SWRCB establishes statewide policy for water quality control and provides oversight of RWQCB operations. In addition to other regulatory responsibilities, the RWQCBs have the authority to conduct, order, and oversee investigation and cleanup where discharges or threatened discharges of waste to waters of the state[2] could

[2] "Waters of the state" are defined in the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)).

cause pollution or nuisance, including impacts to public health and the environment. As is evident from the preceding regulatory discussion, the Porter-Cologne Act and the CWA overlap in many respects, as the entities established by the Porter-Cologne Act are in many cases enforcing and implementing federal laws and policies. However, there are some regulatory tools that are unique to the Porter-Cologne Act.

Dredge/Fill Activities and WDRs. Actions that involve, or are expected to involve, discharge of waste are subject to water quality certification under Section 401 of the CWA (e.g., if a federal permit is being sought or granted) and/or WDRs under the Porter-Cologne Act. Chapter 4, Article 4, of the Porter-Cologne Act (California Water Code, Sections 13260–13274), states that persons discharging or proposing to discharge waste that could affect the quality of waters of the state (other than into a community sewer system) shall file a Report of Waste Discharge with the applicable RWQCB. For discharges directly to surface water (waters of the United States), an NPDES permit is required, which is issued under both state and federal law; for other types of discharges, such as waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (such as isolated wetlands), WDRs are required and are issued exclusively under state law. WDRs typically require many of the same BMPs and pollution control technologies as required by NPDES-derived permits. Further, the WDR application process is generally the same as for CWA Section 401 water quality certification, though in this case it does not matter whether the particular project is subject to federal regulation.

The Statewide General Waste Discharge Requirements for Discharge to Land (2003-0003-DWQ), for example, applies to projects that discharge to land where the discharge has a low threat to water quality. These are typically low-volume discharges with minimal pollutant concentrations, such as well water discharges, small temporary dewatering projects, and hydrostatic testing discharges of clear water. The primary difference between this permit and the permits under the NPDES programs described above is the destination of the water. This permit regulates discharges to land, while the previous sections discuss discharges to storm drains or receiving waters. For instance, if a dewatering discharge will be piped to an infiltration basin during construction, this permit should be used.

SB X7-7

Senate Bill (SB) No. X7-7, which became effective on February 3, 2010, is the water conservation component to the Delta legislative package (SB 1, Delta Governance/Delta Plan). It seeks to implement water use reduction goals established in 2008 to achieve a 20% statewide reduction in urban per capita water use by December 31, 2020. The bill requires each urban retail water supplier to develop urban water use targets to help meet the 20% goal by 2020 and an interim 10% goal by 2015. The bill establishes methods for urban retail water suppliers to determine targets to help achieve water reduction targets. The retail water supplier must select one of the four compliance options. The retail agency may choose to comply with SB X7-7 as an individual or as a region in collaboration with other water suppliers. Under the regional compliance option, the retail water supplier still has to report the water use target for its individual service area. The bill also includes reporting requirements in the 2010, 2015, and 2020 Urban Water Management Plans.

Division of State Architect

For public schools and state essential services buildings, the California Department of General Services, Division of the State Architect (DSA), has jurisdiction over all aspects of construction (including access compliance), to ensure that plans, specifications, and construction activities comply with the California Building Code (Title 24 of the California Code of Regulations).

According to DSA's Interpretation of Regulations document DSA IR-9, for school site improvement projects that involve only grading, landscaping, fill placement, paving, storm drains, or other work that does not support structures or involve their utilities, the school district is not required to file an application for DSA Structural Safety approval, although it has the option to do so if it chooses. DSA Access Compliance approval is required, however, for all school projects, whether they are site improvements, new construction, or alterations to existing construction.

In any case, in addition to the Education Code, Section 17283, the District is subject to compliance with local, city, or county ordinances as required by law (e.g., local ordinances governing drainage, waste, the Health and Safety Code, the Government Code). This would include local ordinances related to water quality protection if they apply to the non-structural components of the project.

Local

Central Orange County Integrated Regional and Coastal Watershed Management Plan

The County of Orange, the City of Costa Mesa, the City of Irvine, the City of Newport Beach, and other relevant stakeholders prepared a comprehensive Integrated Regional and Coastal Watershed Management Plan (IRCWMP) in August 2007 to address the critical water resource management need of the San Diego, Newport Bay, and Costa Mesa Watershed areas. The document is a programmatic planning document for the region prepared in accordance with the state's Integrated Regional Water Management Plan Standards per the California Water Code. It covers issues of water quality, habitat protection and enhancement, flood control, water supply, and stormwater management within the designated planning area, which includes

Central Orange County, Irvine, Costa Mesa, and Newport Beach, as well as the San Diego Creek channel and the Upper Newport Bay.

The IRCWMP identifies seven objectives, including the following three that are relevant to the proposed project:

- Improving water quality in streams and channels, particularly those listed as impaired and those that discharge into the Upper Newport Bay
- Providing implementation of restoration projects, BMPs, and other control measures to support beneficial uses of creeks, streams, bays, and estuaries
- Protecting, restoring, and enhancing and connecting wetland and wildlife habitats in the coastal zone and the upper watershed, while maintaining flood control.

The objectives and specific projects outlined in the IRCWMP are generally consistent with the objectives of the proposed project of increasing flood capacity and protecting the beneficial uses of Upper Newport Bay by reducing the existing sediment load into the bay.

City of Costa Mesa

The Costa Mesa Municipal Code, Title 8, Health and Sanitation, Chapter 3, NPDES and DAMP Regulations, defines specific requirements for new development and significant redevelopment projects as well as BMPs to be applied during a construction project. Specifically, the water quality ordinance requires all new development and significant redevelopment within the City to be undertaken in accordance the Orange County DAMP. The Municipal Code defines new development as all public and private residential, industrial, commercial, retail, and other nonresidential construction projects, or grading for future construction, for which a discretionary land use approval, grading permit, building permit, or nonresidential plumbing permit is required. The Municipal Code defines significant redevelopment as the rehabilitation or reconstruction of public or private residential (whether single-family, multiple-unit, or planned unit development), industrial, commercial, retail, or other nonresidential structures for which a discretionary land use approval, grading permit, building permit, or nonresidential plumbing permit is required.

Prior to the issuance by the City of a grading permit, building permit, or nonresidential plumbing permit for any new development or significant redevelopment, the development services department and the public services department shall review the project plans and impose terms, conditions, and requirements on the project. Development and implementation of a water quality management plan following Costa Mesa Municipal Code regulations is required during the entirety of a project.

4.8.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to hydrology and water quality are based on Appendix G of the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines; 14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to hydrology and water quality would occur if the project would:

1. ***Violate any water quality standards or waste discharge requirements.***
2. ***Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).***
3. ***Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on or off site.***
4. ***Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.***
5. ***Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.***
6. ***Otherwise substantially degrade water quality.***
7. ***Place housing within a 100-year flood hazard areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.***
8. ***Place within a 100-year flood hazard area structures which would impede or redirect flood flows.***
9. ***Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.***
10. ***Inundation by seiche, tsunami, or mudflow.***

Four thresholds (Thresholds 7, 8, 9, and 10) related to flooding were eliminated from further analysis in the Initial Study completed for the proposed project. Because the project is not within a 100-year flood hazard zone or other flood zone (such as a dam or levee failure zone), and because it is sufficiently elevated relative to the ocean and not next to large body of water, it would not be subject to substantial flooding-related hazards. The project site is also not located near hillside areas that would be subject to mudslides. Any flooding that does occur would be limited to shallow nuisance flooding resulting from blocked storm drains, which is an existing public works issue which the project would neither create or exacerbate. Nuisance flooding would not represent a public safety hazard or cause risk of loss, injury or death (Threshold 9). For these reasons, the impacts of the project with respect to flood-related risks would be less than significant.

4.8.4 Impacts Analysis

This section evaluates the potential impacts associated with construction and operation of the proposed project on hydrology and water quality. Each significance criterion in Appendix G of the CEQA Guidelines is listed in this section in bold. Significance criteria that have similar impact mechanisms and thus would have similar discussion, analyses, and conclusions are grouped so as to avoid redundant or overlapping analyses. A brief discussion is provided for impact criteria that are either not applicable to the project, or for which the project would have no effect or impact.

Would the proposed project violate any water quality standards or waste discharge requirements?

Would the proposed project otherwise substantially degrade water quality?

Impacts to water quality, either through exceedance of water quality standards, non-conformance with WDRs, or by other means, can potentially result from the short-term effects of construction activity (e.g., erosion and sedimentation due to land disturbances, uncontained material and equipment storage areas, improper handling of hazardous materials), as well as long-term effects of landscaping, circulation improvements, utility infrastructure, and structural designs (e.g., alteration of drainage patterns and/or increases in impervious surfaces). This discussion generally focuses on the short-term effects of construction activities and addresses the different types of water quality impacts in terms of the type of construction-related effects, including stormwater runoff from construction sites, management of demolition activities and debris, and non-stormwater discharges. Long-term effects related to changes in topography and impervious surfaces are addressed under Thresholds 3 and 4 because they address the potential for alteration of drainage patterns to have adverse effects on erosion and/or flooding.

Stormwater Runoff

Construction activities such as grading, excavation, and trenching for construction, renovation, and demolition of facilities discussed in the Vision 2020 Facilities Master Plan would result in disturbance of soils at the project site. Construction site runoff can contain soil particles and sediments from these activities. Dust from construction sites can also be transported to other nearby locations, where the dust can enter runoff or water bodies. Spills or leaks from heavy equipment and machinery, staging areas, or building sites can also enter runoff. Typical pollutants could include petroleum products and heavy metals from equipment, and products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of construction materials could result in water quality degradation if runoff containing the sediment entered receiving waters in sufficient quantities to exceed water quality objectives. Impacts from construction-related activities would generally be short term and of limited duration.

Because implementation of the proposed project would collectively require construction activities resulting in a land disturbance of more than 1 acre, OCC is required to obtain the Construction General Permit, which pertains to pollution from grading and project construction. Compliance with the permit requires the District to file a Notice of Intent with the SWRCB and prepare a SWPPP prior to construction. The SWPPP would incorporate BMPs in order to prevent, or reduce to the greatest feasible extent, adverse impacts to water quality from erosion and sedimentation. A copy of the applicable SWPPP would be kept at the construction site and be available for the County, the DSA, and/or the RWQCB to review on request.

The following list includes examples of treatment control BMPs to employ during construction, although these would vary based on the nature of construction activities, the characteristics of the site, and the existing impairments (e.g., sediment) applicable to receiving waters (these features will appear as notes on final design plans):

- Silt fences installed along limits of work and/or the project construction site
- Stockpile containment (e.g., visqueen, fiber rolls, gravel bags)
- Exposed soil stabilization structures (e.g., fiber matrix on slopes and construction access stabilization mechanisms)
- Street sweeping
- Tire washes for equipment
- Runoff control devices (e.g., drainage swales, gravel bag barriers/chevrons, velocity check dams) for use during construction phases conducted during the rainy season
- Storm drain inlet protection
- Wind erosion (dust) controls
- Tracking controls
- Prevention of fluid leaks (inspections and drip pans) from vehicles
- Dewatering operations best practices
- Materials pollution management
- Proper waste management
- Regular inspections and maintenance of BMPs.

These BMPs would prevent construction-related contaminants from reaching impaired surface waters and the Newport Bay Area of Special Biological Significance. Required compliance with the Construction General Permit, including preparation and implementation of a SWPPP, would ensure that water quality impacts resulting from construction-related activities and ground disturbances would be less than significant.

Management of Demolition Activities and Debris

As discussed in Section 4.7, Hazards and Hazardous Materials, demolition activities could result in the release of contaminated materials and hazardous substances such as lead-based paint or asbestos. Mitigation measure MM-HAZ-1 would require a lead-based paint and asbestos survey prior to demolition, which would be conducted by a California Occupational Health and Safety Administration-certified asbestos assessor and California Department of Health Services-certified lead-based paint assessor. This mitigation measure is designed to avoid worker exposure to asbestos and lead, but would also serve (along with the SWPPP) to minimize the potential for these substances to be mobilized by stormwater runoff. In addition, there is sufficient evidence to indicate that soils on site may have residual pesticides/herbicides from past agricultural uses, and that there have been hazardous materials cases involving the underground storage of fuel tanks. Excavation, transport, or disposal of soils from these areas could create a hazard to the public or the environment. MM-HAZ-2 would require the preparation of a hazardous materials contingency plan in order to reduce potential impacts from contaminated soils, which would also reduce the potential for contaminated soils to be mobilized in stormwater runoff.

Preparation and implementation of a SWPPP as a standard construction practice, as well as implementation of MM-HAZ-1 and MM-HAZ-2, would prevent exceedance of water quality standards, nonconformance with WDRs, and degradation of water quality due to construction and demolition activities. The impact is therefore less than significant with mitigation.

Non-Stormwater Discharges

Non-stormwater discharges during construction could include construction-related dewatering discharges (to keep excavations free of water) and/or dust control. If non-stormwater discharges enter the stormwater drainage system, they would potentially degrade water quality and/or violate water quality objectives of the Santa Ana RWQCB Basin Plan.

Dewatering

It is not anticipated that construction crews would need to perform construction-related dewatering discharges because based on site conditions, it is not anticipated that construction-related excavations would encounter the shallow groundwater table. Nevertheless, there is a possibility that dewatering discharges would need to be made to provide a dry work area if there is seepage of groundwater or if stormwater runoff enters excavations.

In such instances, discharge to the land surface would need to comply with the provisions of the SWPPP, which will be required to describe and implement procedures for making non-stormwater discharges. Discharges of non-stormwater from a trench or excavation that contain sediment or other pollutants directly to a sanitary sewer, storm drain, creek bed, or other receiving water are prohibited under the terms of the Construction General Permit. Discharges of wastes are prohibited from causing a violation of any applicable water quality standards for receiving waters adopted by the RWQCB or SWRCB as required by the CWA. Therefore, the discharges are not permitted to cause any of the following:

- The undesirable discoloration of the receiving waters
- The presence of objectionable odors in the receiving water
- The presence of visible oil, grease, scum, or floating or suspended material or foam in the receiving waters
- The deposition of objectionable deposits along the banks or the bottom of the stream channel
- The depletion of the dissolved oxygen concentration below 5 mg/L in the receiving water; if the ambient dissolved oxygen concentration is less than 5 mg/L, the discharge shall not cause further depression
- An increase in the temperature of the receiving waters above 90°F (32°C), which normally occurs during the period of June through October, nor above 78°F (26°C) during the rest of the year
- A change in the ambient pH levels of more than 0.5 pH units
- The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving waters
- The bioaccumulation of chemicals in aquatic resources to levels harmful to human health.

The preferred method of discharge would be to a landscaped, vegetated, or soil area or into an infiltration basin, so long as the water only contains sediment (no other pollutants) and all sediment would filter out. If there is evidence that other pollutants are present in the groundwater, the applicant would be required to obtain a separate permit from the RWQCB or local jurisdiction. In such cases, the applicant may be required to use a vacuum truck and haul the water to an authorized discharge location or implement various methods of treatment on site prior to discharging the water. Implementation of the SWPPP provisions would ensure that non-stormwater discharges from construction site dewatering would not violate basin plan objectives or substantially degrade water quality. Implementation of MM-HAZ-1 and MM-HAZ-2 would further ensure that potential contaminants are identified and handled properly, i.e., treated on site or collected and disposed of at an authorized facility. Therefore, impacts to water quality during construction due to dewatering would be less than significant with mitigation.

Dust Control

Non-stormwater discharges during construction would also include periodic application of water for dust control purposes. Since the practice of dust control is necessary during windy and dry periods to prevent wind erosion and dust plumes, water would be applied in sufficient quantities to wet the soil, but not so excessively as to produce runoff from the construction site. Water applied for dust control would either quickly evaporate or locally infiltrate into shallow surface soils. These stipulations are routine in SWPPPs and other construction contract documents and state that water would only be applied in a manner that does not generate runoff. Therefore, water applied for dust control would not result in appreciable effects on groundwater or surface water features and thus has little to no potential to cause or contribute to exceedances of water quality objectives contained in the relevant Basin Plan, resulting in a less-than-significant impact.

Would the proposed project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

The water needs of the proposed project would be met by the MCWD. No on-site groundwater wells are proposed; therefore, impacts to groundwater supplies, depletion of aquifer volume, or lowering of the local groundwater table level would be limited to the well field from which the MCWD derives its supplies. Six wells pump clear water from the main production aquifer of the Orange County Groundwater Basin and two wells pump colored water located below the main production aquifer, which is then treated to drinking water standards (MCWD 2011).

The Orange County Water District (OCWD) has been the primary agency managing the groundwater basin since 1933. The OCWD works collaboratively with the Metropolitan Water District of Southern California and other local water districts such as the MCWD to implement a comprehensive program to manage the groundwater basin to assure a safe and sustainable supply. The Groundwater Management Plan 2009 Update documents the objectives, operations, and programs aimed at accomplishing the MCWD's mission (MCWD 2011, Appendix B). Because the MCWD already serves an estimated 111,166 customers in an area that is largely (although not completely) built out, any increase in demand resulting from the proposed project—when taken in the context of total water deliveries and the active management of the basin by the OCWD—would be relatively minor and incremental in nature. Furthermore, the MCWD has designed its recently built colored water treatment plant for future expansion. Because the OCWD encourages the pumping of groundwater that does not meet drinking water standards in order to protect water quality, use of the water from the lower aquifer does not count against its basin production percentage goals (this is also known as a Basin Equity Assessment Exemption).

Nevertheless, to the extent the proposed project generates additional water demand, it could also result in an increase in the use of groundwater. The most substantial increase in water demand resulting from the proposed project will likely occur following occupancy of the student housing project, which will accommodate approximately 800 students and 18 dwelling units for live-in staff. Additional facilities besides the student housing project that are also expected to be water intensive include the Adaptive Physical Education, Gymnasium, and Pool Facilities and the mixed-use development concept, which could include commercial/retail uses and conferencing space. Other program- and project-level components of the proposed project, while less water-demanding, will still entail incremental increases in water demands associated with maintenance, landscaping, and restroom facilities necessary to accommodate the anticipated increased enrollment of approximately 6,922 students by 2020. The OCWD would require approval of all water utility connections proposed by OCC.

Total water supplies delivered by the MCWD vary from year to year, but include approximately 82% groundwater, 12% imported water, and 6% recycled water (MCWD 2011). The proportion of water to be supplied from groundwater sources is expected to increase because one of MCWD's goals is to eliminate its reliance on imported water (MCWD 2011). In the 2011–2012 school year, OCC used approximately 170 acre-feet of potable water (OCC 2013). According to the 2010 Urban Water Management Plan prepared by MCWD (2011), the water district has supplied 15,900 acre-feet per year of groundwater to customers, making OCC's usage about 1% of the total groundwater supplied by MCWD (assuming that all water is derived from groundwater). Compared to the annual groundwater production within the Orange County Groundwater Basin as a whole (i.e., roughly 500,000 acre-feet per year), the increase in demand as a result of the proposed project would be negligible, and would be far less than the variation in demand due to climatic conditions (MCWD 2011). As a point of comparison, in 1998, the volume of storage of freshwater within the basin amounted to 37,700,000 acre-feet (DWR 2004). A water service agreement and, if required, payment of impact fees to the water district would be required prior to initiating new water connections.

For these reasons, and because the groundwater basin is currently cooperatively managed by a multitude of agencies through Integrated Regional Water Management Programs, the project's incremental effect on groundwater resources would be less than significant. No mitigation is required.

Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

As discussed in Existing Conditions section, there are approximately 119 impervious acres and 44 pervious acres on-site, which means that impervious surfaces such as structures, paved walkways, and parking lots currently make up approximately 73% of the campus, with the rest consisting of landscaped areas and/or vacant lots. Much of the new construction and land uses proposed would occur on previously paved surfaces, such as parking lots, walkways, and within the footprint of demolished facilities. The proposed renovations would not substantially change the amount or distribution of impervious surfaces on campus, and much of the proposed demolition would serve to free up the central quad for pedestrian circulation and landscaping. Some of the campus parking (such as Lot D and portions of Lot A), rather than being spread out over paved surface lots, would be consolidated within a new four-level parking structure on the Adams lot. Certain proposed facilities could increase the amount of impervious surfaces relative to existing conditions because their proposed footprints include areas that are currently pervious (i.e., undeveloped/bare ground)—these facilities include the student housing project; the Language Arts and Social Sciences Building; and the Recycling Center Expansion.

Because many of the facilities in the Vision 2020 Facilities Master Plan are in the initial planning stages (i.e., no detailed layout or designs are available), the increase or decrease in impervious surfaces that would occur campus-wide as a result cannot be quantified at this time. However, because the campus is already largely built out, located on level topography, and surrounded by urban land uses, the proposed project is not anticipated to substantially modify existing topography, drainage-shed boundaries, or runoff rates/patterns. Furthermore, the proposed project generally seeks to accommodate growth in the student enrollment by building up and not out. Generalized footprints for the proposed construction, renovation, and demolition of facilities (see Figures 3-4 and 3-6) indicate that increases in impervious surfaces due to specific facilities (such as the student housing project) would be at least partially counterbalanced by decreases in impervious surfaces due to consolidation of parking spaces into the new four-level garage and the demolition of buildings currently occupying the central quad area.

The changes in impervious areas created and the newly proposed land uses could nevertheless alter the types and levels of pollutants that could be present in project site runoff. Runoff from streets, driveways, parking lots, and landscaped areas can contain non-point-source pollutants such as oil, grease, heavy metals, pesticides, herbicides, fertilizers, and sediment. Concentrations of pollutants carried in urban runoff are extremely variable, depending on factors such as the following:

- Volume of runoff reaching the storm drains
- Time since the last rainfall
- Relative mix of land uses and densities
- Degree to which street cleaning occurs.

Under existing conditions, stormwater that is not infiltrated into landscaped areas and bare ground moves as sheet flow towards street gutters, swales, and the inlets of underground storm drains. The storm drains direct runoff as shown on Figure 4.8-2, into the Santa Ana–Delhi Channel and eventually into Upper Newport Bay along with the runoff from much of Costa Mesa and surrounding urban areas. If rainfall is sufficiently intense and/or long-lasting, and particularly if storm drain inlets have not been cleared of leaves and/or other debris, water may temporarily pond in low-lying areas. Under proposed conditions, stormwater runoff would generally behave in the same manner except where development is proposed in previously undeveloped areas such as the expanded Recycling Center and the student housing project.

Implementation of MM-HYD-1 would require preparation of a WQMP that is consistent with guidance within the Orange County DAMP and the City of Costa Mesa Local Implementation Plan. These would insure that drainage designs incorporate BMPs that have long-term benefits with respect to water quality and are consistent with local water quality requirements, including applicable TMDLs. The development of the project site would generally maintain the size and topography of the existing watershed and would not include regrading sufficient in magnitude to substantially alter general drainage patterns. The pre- and post-project watershed area would be the same, and stormwater would flow in the same general direction as shown in Figure 4.8-2. With implementation of MM-HYD-1, the impacts of the project on drainage patterns would be less than significant.

Recycling Center Expansion, Skill Center, and Chemistry Building

The Recycling Center Expansion—because it would handle wastes—would require coverage under the General Industrial Permit. As described in Section 4.8.2, the General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology (BAT) economically achievable and best conventional technology (BCT) for pollutant control. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce stormwater pollution are described (for further details see description of industrial stormwater permit in Section 4.8.1). The Skill Center involves aviation-related activities requiring the transport, use, and storage of fuels, and the Chemistry

Building would potentially involve storage and use of hazardous or acutely hazardous materials. Improper handling or storage of these materials could result in releases to environmental media, including stormwater or groundwater.

According to the Stormwater Multi-Application Report Tracking System, which tracks Notices of Intent for NPDES permits, the existing Recycling Center does not appear to currently have coverage under any industrial NPDES permits. Enforcement of NPDES permitting requirements is normally conducted through the process of obtaining local building, grading, and/or development permits; however, plan checks and the approval process for the District is carried out by the DSA, which does not have an obvious enforcement mechanism for NPDES compliance. Implementation of MM-HYD-2 would ensure that the District obtains coverage under the General Industrial Permit and would ensure that construction, operation, and maintenance of the facility would be done in a manner that is protective of water quality. Furthermore, implementation of MM-HYD-3 would require that plans and measures for chemical management (including, but not limited to, storage, emergency response, employee training, spill contingencies, and disposal) be incorporated into the WQMP. Among other things, compliance with the General Industrial Permit would require the Recycling Center to be designed so as to preclude contact of rainwater with recycled materials (e.g., by using covered bins for processed materials). With implementation of MM-HYD-2 and MM-HYD-3, the potential impacts would be reduced to a less-than-significant level.

Would the proposed project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

The potential for the project to alter drainage patterns is addressed above under Threshold 4. Because the drainage sheds would maintain the same boundaries, and because changes in impervious surfaces would be relatively minor, the project is not anticipated to exceed the capacity of existing off-site stormwater drainage systems. Some on-site modifications to the drainage system may be undertaken, if required, as part of facility construction under the proposed project. Implementation of the WQMP would also insure that proposed projects include design features that slow and retain stormwater runoff. For these reasons, the impact of the project on the capacity of stormwater drainage systems would be less than significant.

4.8.5 Mitigation Measures

The following mitigation measures shall be implemented:

MM-HYD-1 Water Quality Management Plans (WQMPs). Prior to the Division of the State Architect (DSA) review and approval of building and development plans, the applicant shall submit for review and approval a project WQMP that:

- Discusses regional or watershed programs including the Central Orange County Integrated Regional and Coastal Water Management Plan
- Addresses site-design best management practices (BMPs) (as applicable) such as minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, creating reduced or “zero discharge” areas, and conserving natural areas
- Incorporates the applicable source control BMPs as defined in the Drainage Area Management Plan (DAMP)
- Incorporates treatment control BMPs as defined in the DAMP
- Generally describes the long-term operation and maintenance requirements for the treatment control BMPs
- Identifies the entity that will be responsible for long-term operation and maintenance of the treatment control BMPS
- Describes the mechanism for funding the long-term operation and maintenance of the treatment control BMPs.

Prior to grading or building permit close-out and/or the issuance of a certificate of use or a certificate of occupancy, the applicant shall:

- Demonstrate that all structural BMPs described in the project WQMP have been constructed and installed in conformance with approved plans and specifications
- Demonstrate that the applicant is prepared to implement all non-structural BMPs described in the project WQMP
- Demonstrate that an adequate number of copies of the project’s approved final project WQMP are available for the future occupiers
- Submit for review and approval an Operations and Maintenance Plan for all structural BMPs.

MM-HYD-2 **Water Quality Plan for the Recycling Center Expansion.** For industrial facilities subject to California's General Permit for Storm Water Discharges Associated with Industrial Activity as defined by Standard Industrial Classification (SIC) code (including waste recycling facilities), prior to grading or building permit close-out and/or the issuance of a certificate of use or a certificate of occupancy, the Coast Community College District (District) shall submit a Notice of Intent to the State Water Resources Control Board and/or Santa Ana Regional Water Quality Control Board and maintain on file at all times a copy of the notification of the issuance of a Waste Discharge Identification Number or other proof of filing.

MM-HYD-3 **Chemical Management Plans.** Prior to issuance of certificates of use and occupancy or building permits, uses shall be identified and, for specified uses, the applicant shall propose plans and measures for chemical management (including, but not limited to, storage, emergency response, employee training, spill contingencies, and disposal). The chemical management measures shall be incorporated as an element of a project WQMP and shall be subject to the approval of the DSA and other specified agencies, such as the Orange County Fire Authority, the Orange County Health Care Agency, and sewer agencies (as appropriate), to ensure implementation of each agency's respective requirements. Occupancy certificates or permits may be withheld if features needed to properly manage chemicals cannot be incorporated into a previously completed building, center, or complex.

MM-HYD-4 **Water Conservation.** Orange Coast College (OCC) Vision 2020 Master Plan (proposed project) facilities shall be designed, constructed, and operated in compliance with Mesa Consolidated Water District Ordinance 19 and Ordinance 21 (MCWD Water Conservation Programs). The OCC Maintenance and Operations Department, as well as commercial tenants of leased property, shall be required to become familiar with and enforce, to the extent feasible and as applicable, the following restrictions and requirements:

- Watering or irrigating of lawn, landscape, or other vegetated area with potable water is prohibited between the hours of 8:00 a.m. and 5:00 p.m. Pacific Standard Time on any day. If necessary, and for very short periods of time for the express purpose of adjusting or repairing it, one may operate an irrigation system during the otherwise restricted period.
- No person shall cause or allow watering or irrigating of any lawn, landscape, or other vegetated area in a manner that causes or allows excessive runoff from the property.

- Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios, or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container; a hand-held hose equipped with a fully functioning, positive self-closing water shut-off device; a low-volume, high-pressure cleaning machine equipped to recycle any water used; or a low-volume, high-pressure water broom.
- Excessive use, loss, or escape of water through breaks, leaks, or other malfunctions in the Coast Community College District's (or a lessee's) plumbing or distribution system for any amount of time after such escape of water should have reasonably been discovered and corrected, and in no event more than 7 days after receiving notice from the MCWD, is prohibited.
- Operating a water fountain or other decorative water feature that does not use recirculated water shall be prohibited.
- Using water to wash or clean a vehicle shall be prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a fully functioning, positive self-closing water shut-off nozzle or device.
- Eating or drinking establishments are encouraged not to provide drinking water to any person unless expressly requested.
- Installation of single-pass cooling systems shall be prohibited in buildings requesting new water service.
- Installation of non-recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.
- Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water-conserving dish wash spray valves.
- After the MCWD has provided to the user an analysis demonstrating that recycled water is available, cost effective, and safe for the intended use, and the user has been given a reasonable time to make the conversion to recycled water, the use of potable water shall be prohibited.
- Prior to the connection of any new commercial, industrial, or multi-residential water service, MCWD shall perform an evaluation to determine whether recycled water is available, cost effective, and safe for the intended use to supply all or some of the water needed by the new user. If available, cost effective, and safe for the intended use, recycled water must be used.

These provisions shall be included in service contracts, leases, and/or other agreements between the Coast Community College District and other entities, as applicable, to ensure their implementation.

MM-HAZ-1 See Section 4.7.5.

MM-HAZ-2 See Section 4.7.5.

4.8.6 Level of Significance After Mitigation

Implementation of MM-HYD-1 (Water Quality Management Plans), MM-HYD-2 (Water Quality Plan for the Recycling Center Expansion), MM-HYD-3 (Chemical Management Plans), and MM-HYD-4 (Water Conservation), as well as MM-HAZ-1 and MM-HAZ-2, would ensure that all impacts identified would be reduced to a less-than-significant level.

4.8.7 Cumulative Impacts

The primary pollutants of concern on a college campus are associated with private vehicle maintenance (e.g., car washing and grease/oils associated with maintenance/repairs), landscaping/grounds work (e.g., improper/excessive use of pesticides, herbicides, and/or fertilizers), and/or trash (e.g., due to improper waste disposal). The release of such pollutants would be localized and periodic in nature and minor in magnitude (especially in comparison to the total volume of stormwater discharges entering the Upper Newport Bay from the entire urban watershed) and would not contribute to the existing impairments under Section 303(d) of the CWA. Nevertheless, because the cumulative effects of past projects have resulted in substantial water quality problems in the region’s major waterways, and because water quality problems are generally cumulative in nature, all efforts must be made to reduce pollutant concentrations within stormwater discharges to the maximum extent practicable, even if the impact of an individual project appears inconsequential. MM-HYD-1 is designed to address this issue by reducing the levels of pollutants entering the storm drain system to the maximum extent practicable. The mitigation measure likewise ensures that the contribution of the project to cumulative impacts on water quality is less than significant.

In addition, because of the cumulative nature of groundwater impacts—meaning that all urban growth and development relying on the Orange County Groundwater Basin would demand water—the project’s increase in demand on groundwater, even if individually minor, could be cumulatively considerable, particularly in the context of climate change, existing drought conditions, and the trend toward increased reliance on local supplies. Implementation of MM-HYD-4 would ensure that water is not used in a wasteful manner, which would also further ensure that the contribution to cumulative impacts on groundwater volume and levels would be less than significant with mitigation.

4.8.8 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

33 U.S.C. 1251–1387. Federal Water Pollution Control Act, as amended (commonly referred to as the Clean Water Act).

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SOURCE: ESRI 2013, DUDEK 2013; FEMA 2013

FIGURE 4.8-1
Regional Hydrology

7910

Orange Coast College Vision 2020 Facilities Master Plan Recirculated Program EIR

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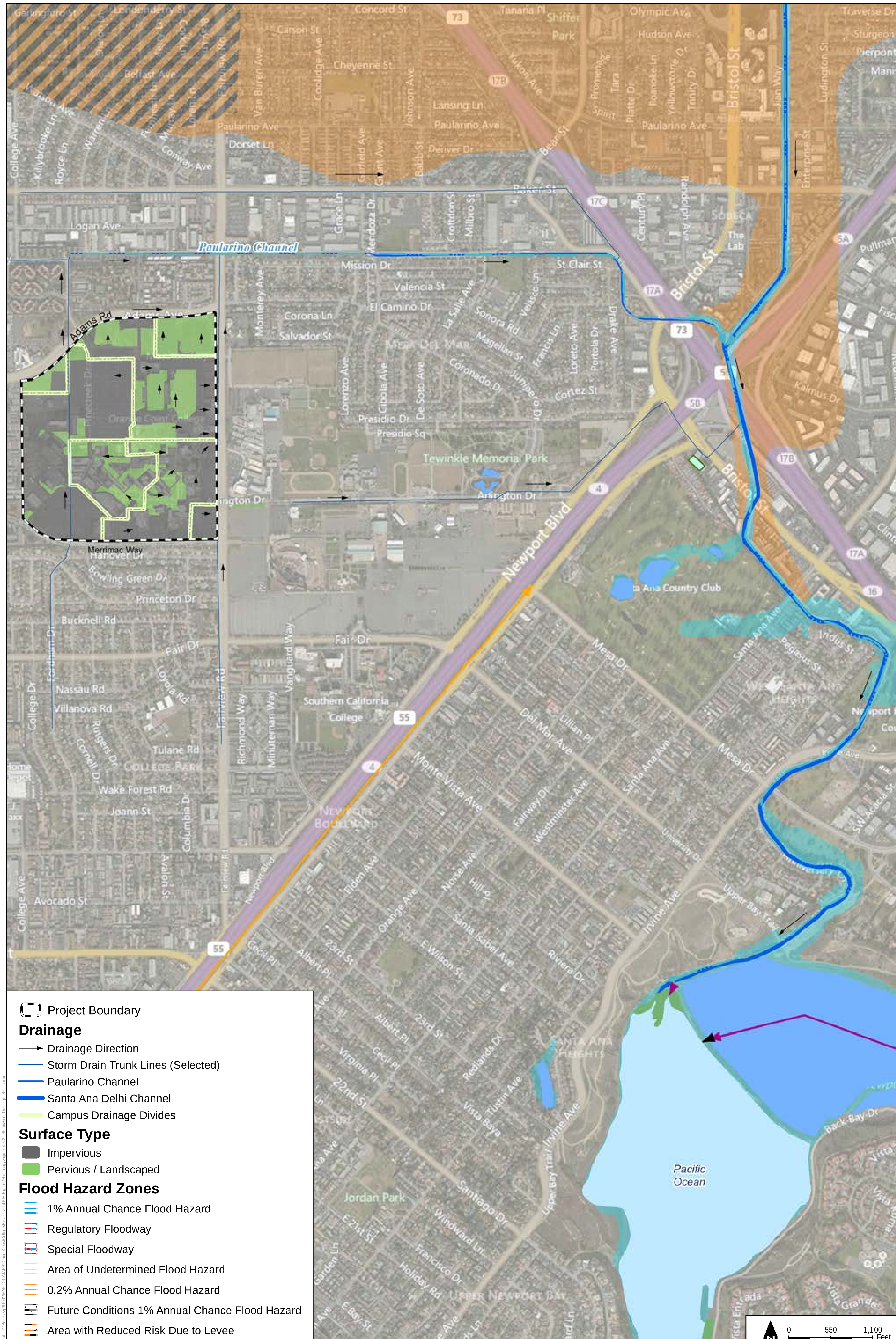

SOURCE: ESRI 2013, DUDEK 2013; FEMA 2013

FIGURE 4.8-2
Stormwater Drainage

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4.9 NOISE

This section evaluates noise effects of the Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project), including potential impacts from current and future ambient noise levels on proposed land uses as well as the potential for noise generation from proposed land uses and activities within the proposed project area. Noise generation sources from future implementation of the project include traffic, campus-related activities and recreation, and construction. Potential noise effects from vehicular traffic were modeled and assessed using the Federal Highway Administration's Traffic Noise Model Version 2.5. Data used to model noise from vehicular traffic was derived from the project-specific traffic impact analysis report prepared by Linscott, Law and Greenspan (Appendix G; LLG 2015).

4.9.1 Existing Conditions

4.9.1.1 Noise Concepts

Noise is generally defined as loud, unexpected, or undesired sound, typically associated with human activity that interferes with or disrupts normal activities. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The definition of noise as unwanted sound implies that it has an adverse effect on people and their environment.

Sound is measured in terms of intensity, which describes the sound's loudness and is measured in decibels (dB); frequency or pitch, measured in cycles per second or hertz (Hz); and duration of sound. Sound is composed of various frequencies; however, the human ear does not respond to all frequencies, being less sensitive to very low and high frequencies than to medium frequencies that correspond with human speech. Sound level meters adjust for the weight the human ear gives to certain frequencies, applying a correction to each frequency range to approximate the human ear's sensitivity within each range. This is called "A-weighting" and is commonly used in measurements of community environmental noise. The A-weighted sound level, abbreviated dBA, is determined to be the most appropriate unit of measure for community noise.

The unit of measure for the cumulative effect of community noise is the community noise equivalent level (CNEL), which is the average noise level for a 24-hour period. The CNEL is often used to describe the relationship of a continuous noise source, such as traffic, to the desirable ambient noise level (normal and existing noise level). The CNEL is adjusted to reflect the greater sensitivity to noise during evening and nighttime hours, with a 5 dBA penalty assigned to noise between 7:00 p.m. and 10:00 p.m. and a 10 dBA penalty assigned to noise between 10:00 p.m. and 7:00 a.m. Due to fluctuations in community noise over time, a single measurement called the equivalent sound level (L_{eq}) is often used to describe the time-varying character of community noise. The L_{eq} is the energy-averaged A-weighted sound level during a measured time interval, and it is equal to the level of a continuous, steady sound containing the same total acoustical energy over the averaging time period as the actual time-varying sound.

To respond to the human ear's sensitivity to sound, the range of audible sounds exist on a logarithmic scale that takes into account the large differences in audible sound intensities. On this scale, for example, a 10 dBA increase is normally perceived as a doubling of sound. A sound level of 0 dBA is approximately the threshold of human hearing. Normal speech has a sound level of approximately 60 dBA. Sound levels above about 120 dBA begin to be felt inside the human ear as discomfort and eventually as pain at slightly higher levels. The minimum change in the sound level of individual events that an average human ear can detect is about 3 dB.

There are three conceptual components to noise: the source, the transmission path, and the receiver. Noise can be reduced by reducing noise at its source; by lengthening or interrupting the transmission path through diversion, absorption, or dissipation; or by protecting the receiver through noise insulation. The most efficient and effective means of abating noise is to reduce noise at its source. The source noise can be controlled through regulation, such as following restrictions outlined in noise ordinances; muffling techniques; or soundproofing. The transmission path can be interrupted by creating a buffer between the source and the receiver, such as a noise wall, earth embankment, or a building. The receiver can be protected from noise impacts through insulation, building orientation, or shielded areas.

Noise sources can be classified in two forms: (1) point sources, such as stationary equipment (pumps), and (2) line sources, such as a roadway with a large number of pass-by sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6 dBA for each doubling of distance from the source to the receptor. For example, a 60 dBA noise level measured at 50 feet from a point source would be 54 dBA at 100 feet from the source and 48 dBA at 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3 dBA and 4.5 dBA per doubling of distance from the source to the receptor for hard and soft sites, respectively. Typical sound levels generated by various activities are indicated in Table 4.9-1.

Table 4.9-1
Typical Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet fly-over at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 miles per hour		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		

Table 4.9-1
Typical Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Gas lawn mower, 100 feet	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 1998.

Sound levels can also be attenuated by man-made or natural barriers. Intervening noise barriers, such as solid walls or berms, typically reduce noise levels by 5 to 10 dBA. Structures can also provide noise reduction by insulating interior spaces from outdoor noise. The exterior-to-interior noise attenuation provided by typical California building structures ranges from 15 to 25 dBA with windows open and closed, respectively. Acoustically designed enclosures and buildings can provide up to approximately 50 dBA of noise reduction, depending on the noise abatement treatments.

Vibration tolerance typically depends on the type of structures that are affected. Structural response to vibration is typically evaluated in terms of peak particle velocity. Peak particle velocity is often used since it is related to the stresses that are experienced by the buildings. Various general standards are contained in the International Standards Organization’s standards 3945, 4866, and 7626-1. Limits set by these standards indicate a low probability of structural damage occurring to common structures at a peak particle velocity of 2.0 inches per second. Older (and non-reinforced) masonry structures would have a limit of 0.75 to 1.0 inch per second (Caltrans 2004). The Federal Transit Administration identifies a vibration damage threshold criterion of 0.20 inch per second for non-engineered timber and masonry buildings (i.e., fragile buildings), or 0.12 inch per second for buildings extremely susceptible to vibration (i.e., fragile historic buildings) (DOT 2006).

4.9.1.2 Existing Noise Environment

The project site is bounded by Adams Avenue to the north, Merrimac Way to the south, Fairview Road to the east, and multiple-family residential land uses to the west. Residences also exist along the north side of Adams Avenue and along the south side of Merrimac Way. Additionally, a school (Costa Mesa High School) and a church (Presbyterian Church–Covenant) are on the east side of Fairview Road.

A sound level survey was conducted on October 15, 2013, to evaluate existing sound levels and assess potential project noise impacts on the surrounding area. Short-term sound levels were measured at existing noise-sensitive receptors adjacent to and within the project area, as shown in Figure 4.9-1, Noise Measurement Locations. Noise measurements were taken at nearby residences (M-1, M-2, and M-3), and on campus (M-4).

Short-term (1 hour or less), attended sound level measurements were taken with a Rion NL-32 Sound Level Meter. This instrument is categorized as Type 1, Precision Grade. Noise was measured at four representative locations adjacent to and within the project site.

The sound measuring instrument used for the survey was set to the Slow time response and the dBA scale for all noise measurements. To ensure accuracy, the laboratory calibration of the instrument was field checked before and after each measurement period, using an acoustical calibrator. The accuracy of the acoustical calibrator is maintained through a program established through the manufacturer and traceable to the National Institute of Standards and Technology. The sound measurement instrument meets the requirements of American National Standards Institute (ANSI) Standard S 1.4-1983 and International Electrotechnical Commission Publications 804 and 651. In all cases, the microphone height was 5 feet above the ground and the microphone was equipped with a windscreen.

During the field measurements, physical observations of the predominant noise sources were noted. The major noise source in the project area was vehicle traffic. Other secondary noise sounds included rustling leaves, birds, distant aircraft overflights, and other community noises. The results of the sound level measurements are summarized in Table 4.9-2. As shown in Table 4.9-2, measured noise levels varied from 50 dBA L_{eq} at M-4 to 61 dBA Leq at M-2, when rounded to whole numbers as is customary for community noise measurements.

Table 4.9-2
Short-Term Sound Level Measurement Results

Site ID	Measurement Location	Measurement Period			Noise Sources	Measurement Results (dBA)					
		Date	*Start Time*	*Duration (mm:ss)*		L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}
M-1	Apartments west of campus, 1325–1335 Adams Avenue, Apt 5c	10-15-13	13:21	15:00	Traffic, rustling leaves, birds	58.2	84	47.7	48.3	49.7	56.2
M-2	Apartments north of campus, 1300 Adams Avenue, Bldg 5	10-15-13	13:45	15:00	Traffic, distant aircraft, fountain	61.1	71.3	53.4	56	60.1	63.6
M-3	Single-family homes south of campus, rear yard, 234 Hanover Drive	10-15-13	14:26	15:00	Traffic, distant barking dogs, rustling leaves, birds, pool pump	57.8	70.2	53.7	54.2	55.7	60.1
M-4	Main quad, north of Moore Theater	10-15-13	14:50	15:00	Traffic, distant conversations, rustling leaves, birds	50.3	62.5	46.4	47.5	49.1	52.3

L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; L_{min} = minimum sound level during the measurement interval; L_{90} = sound level exceeded for 90% of the measurement period; L_{50} = sound level exceeded for 50% of the measurement period; L_{10} = sound level exceeded for 10% of the measurement period

4.9.2 Relevant Plans, Policies, and Ordinances

The proposed project is located within the City of Costa Mesa (city). Although the Coast Community College District (District) and OCC are not subject to local plans, policies, and guidelines related to noise, this analysis utilizes relevant policies from the local jurisdiction as guidance only.

Federal

The Noise Control Act of 1972 recognized the role of the federal government in dealing with major commercial noise sources, which require uniform treatment. Since Congress has the authority to regulate interstate and foreign commerce, regulation of noise generated by such commerce also falls under congressional authority. The federal government specifically preempts local control of noise from aircraft, railroads, and interstate highways. The U.S. Environmental Protection Agency (EPA) has identified acceptable noise levels for various land uses to protect the public, with an adequate margin of safety, and has established noise emission standards for interstate commerce.

The Department of Housing and Urban Development standards define day/night equivalent sound levels (L_{dn}) below 65 dBA outdoors as acceptable for residential areas. Outdoor levels up to 75 dBA L_{dn} may be made acceptable through the use of insulation in buildings.

State

The pertinent State of California noise regulations are contained in the California Code of Regulations (CCR). Title 24, Noise Insulation Standards, establishes the acceptable interior environmental noise level (45 dBA L_{dn}) for multiple-family dwellings (may be extended by local legislative action to include single-family dwellings). Guidance in 24 CCR 65302(f) requires local land use planning jurisdictions to prepare a general plan. The Noise Element is a mandatory component of the general plan. It may include general community noise guidelines developed by the California Department of Health Services and specific planning guidelines for noise/land use compatibility developed by the local jurisdiction. The state guidelines also recommend that the local jurisdiction should consider adopting a local noise control ordinance. The California Department of Health Services has developed guidelines (1987) for community noise acceptability for use by local agencies. Selected relevant levels are as follows (L_{dn} may be considered nearly equivalent to CNEL):

- CNEL below 60 dBA—normally acceptable for low-density residential use
- CNEL of 55 to 70 dBA—conditionally acceptable for low-density residential use
- CNEL below 65 dBA—normally acceptable for high-density residential use
- CNEL of 60 to 70 dBA—conditionally acceptable for high-density residential use, transient lodging, churches, and educational and medical facilities
- CNEL below 70 dBA—normally acceptable for playgrounds and neighborhood parks.

"Normally acceptable" is defined as satisfactory for the specified land use, assuming that normal, conventional construction is used in buildings. "Conditionally acceptable" may require some additional noise attenuation or special study. Under most of these land use categories, overlapping ranges of acceptability and unacceptability are presented, leaving some ambiguity in areas where noise levels fall within the overlapping range.

The State of California also regulates the noise emission levels of licensed motor vehicles traveling on public thoroughfares, sets noise emission limits for certain off-road vehicles and watercraft, and sets required sound levels for light-rail transit vehicle warning signals. The extensive state regulations pertaining to worker noise exposure are, for the most part, applicable only to the construction phase of any project (e.g., the California Occupational Safety and Health Administration Occupational Noise Exposure Regulations (8 CCR 5095 et seq.)) or to workers in a central plant and/or a maintenance facility or involved in the use of landscape maintenance equipment or heavy machinery.

Local

City of Costa Mesa Municipal Code, Noise Control Ordinance

The city's Municipal Code establishes allowable hours for construction and exterior and interior noise standards. With the exception of emergency machinery or work, construction activities are allowable only on Monday through Friday, 7:00 a.m. to 7:00 p.m. and Saturdays 9:00 a.m. to 6:00 p.m. Construction activities are prohibited on Sundays and on specified federal holidays. Construction equipment, vehicles, or work are exempt from the following interior and exterior noise level standards provided that construction activities take place within the allowable time period (City of Costa Mesa 2010).

Residential areas must follow the exterior noise standards outlined in Table 4.9-3.

Table 4.9-3
City of Costa Mesa Exterior Noise Standards

Time of Day	Sound Level (dBA)
7:00 a.m. to 11:00 p.m.	55
11:00 p.m. to 7:00 a.m.	50
It is unlawful for noise levels to exceed:	
a) Noise level standards for a period of 30 minutes (cumulative) within a 1-hour period	
b) Noise level standards plus 5 dBA for a period of 15 minutes (cumulative) within a 1-hour period	
c) Noise level standards plus 10 dBA for a period of 5 minutes (cumulative) within a 1-hour period	
d) Noise level standards plus 15 dBA for a period of 1 minute (cumulative) within a 1-hour period	
e) Noise level standards plus 20 dBA for any period of time	

Source: City of Costa Mesa 2010.

Residential areas within the city must also follow the interior noise standards outlined in Table 4.9-4.

Table 4.9-4
City of Costa Mesa Interior Noise Standards

Time of Day	Sound Level (dBA)
7:00 a.m. to 11:00 p.m.	55
11:00 p.m. to 7:00 a.m.	45
It is unlawful for noise levels to exceed:	
a) Noise level standards for a period of 5 minutes (cumulative) within a 1-hour period	
b) Noise level standards plus 5 dBA for a period of 1 minute (cumulative) within a 1-hour period	
c) Noise level standards plus 10 dBA for any period of time	

Source: City of Costa Mesa 2010.

City of Costa Mesa General Plan, Noise Element

The city's General Plan Noise Element (City of Costa Mesa 2002) is written to ensure compliance with federal and state requirements through a comprehensive, long-range program of achieving acceptable noise levels throughout the city. The Noise Element identifies noise-generating uses and activities within city limits, the most dominant of which include major freeways and highways, such as Interstate 405, State Route (SR) 55, and SR 73, and John Wayne International Airport. The city's Noise Element also identifies future growth and development within city limits as a major contributor to future noise increases, particularly with regard to increases in air traffic at John Wayne International Airport.

4.9.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to noise are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to noise would occur if the project would:

1. ***Result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.***
2. ***Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.***
3. ***Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.***
4. ***Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.***
5. ***Be 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, and if so, the project would expose people residing or working in the project area to excessive noise levels.***
6. ***Be within the vicinity of a private airstrip, and if so, the project would expose people residing or working in the project area to excessive noise levels.***

As indicated in Threshold 1, noise levels must be analyzed in relation to standards established in the local general plan or noise ordinance. The project site is located within the City of Costa Mesa, but because OCC is not subject to local plans, policies, and guidelines related to noise, this analysis utilizes relevant policies from the jurisdiction as guidance only. Thresholds 5 and 6 were eliminated from further analysis in the Initial Study for the proposed project because the project site is located approximately 2 miles west of John Wayne International Airport and is located outside of the airport safety zone. Therefore, the project would not expose people to excessive noise levels. The proposed project is also not located within the vicinity of a private airstrip. No private airstrips exist within 2 miles of the proposed project site and people residing or working in the proposed project area would not be exposed to excessive noise levels from a private airstrip.

4.9.4 Impacts Analysis

Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Implementation of the proposed project would result in two primary types of potential noise impacts: short-term (i.e., temporary) noise during construction, and long-term noise during operation of the proposed facilities associated with the project.

Short-Term Construction Noise

Potential noise effects from construction activities were assessed using a standard reference for construction noise (EPA 1971).

Development activities for project construction would generally involve the following sequence for all phases of the project: (1) site demolition, (2) site preparation, (3) grading, (4) trenching, (5) building construction, (6) paving, and (7) architectural coating. Although specific project construction details and equipment fleet specifications are not available at this time, the following are typical types of construction equipment that would be expected:

- Concrete/industrial saws
- Excavators
- Tractors/loaders/backhoes
- Forklifts
- Welders
- Cement and mortar mixers
- Paving equipment
- Trenching equipment
- Off-highway water trucks
- Pneumatic tools
- Graders
- Cranes
- Generator sets
- Air compressors.

As demonstrated by this list, construction equipment anticipated for all phases of project development would include standard equipment that would be employed for any routine construction project of this scale; construction equipment with substantially higher noise-generation characteristics (such as pile drivers, rock drills, blasting equipment) would not be necessary for development of the project.

Construction noise is difficult to quantify because of the many variables involved, including the specific equipment types, size of equipment used, percentage of time, condition of each piece of equipment, and number of pieces of equipment that will actually operate on site. The range of maximum noise levels for various types of construction equipment at a distance of 50 feet is depicted in Table 4.9-5. The noise values represent maximum noise generation, or full-power operation of the equipment. As an example, a loader and two dozers, all operating at full power and relatively close together, would generate a maximum sound level of approximately 90 dBA at 50 feet from their operations. As one increases the distance between equipment, and/or the separation of areas with simultaneous construction activity, dispersion and distance attenuation reduce the effects of separate noise sources added together. In addition, typical operating cycles may involve 2 minutes of full-power operation, followed by 3 or 4 minutes at lower levels. The average noise level during construction activities is generally lower, since maximum noise generation may only occur up to 50% of the time.

Table 4.9-5
Construction Equipment Noise Emission Levels

Equipment	Typical Sound Level (dBA) 50 Feet from Source
Pump	76
Saw	76
Backhoe	80
Air compressor	81
Generator	81
Compactor	82
Concrete pump	82
Crane, mobile	83
Concrete mixer	85
Grader	85
Loader	85
Pneumatic tool	85
Truck	88

Source: FTA 2006.

The nearest off-site sensitive receptor to the project work would be multiple-family residential uses northwest of the OCC campus, located approximately 50 feet from the nearest point of planned construction (proposed student housing). Single-family residential uses, south of

Merrimac Way, are located approximately 139 feet from the nearest point of planned construction (proposed OCC Village). The Costa Mesa High School site, east of Fairview Road, is located approximately 228 feet from planned construction (proposed Student Union/Bookstore/Culinary Arts/Student Success Center). Multiple-family residential uses north of Adams Avenue are located approximately 180 feet from planned construction (Recycling Center Expansion). Multiple-family residential uses north of Merrimac Way and east of Harbor Boulevard are located approximately 421 feet from planned renovation (Skill Center) (see Figure 4.9-2, Off-Site Sensitive Receptors).

Routine noise levels from conventional construction activities (with a typical number of equipment operating on the site) range from 75 to 86 dBA L_{eq} at a distance of 50 feet. Due to improvements in construction equipment silencing technology, these sound levels are 3 dB lower than the noise levels reported in the 1971 reference study. The typically quietest phase of building site construction for similar projects (i.e., schools) is that associated with constructing foundations (75 dBA L_{eq} at a distance of 50 feet), and the typically loudest phases, producing 86 dBA L_{eq} at 50 feet, are those associated with grading and finishing activities. Noise levels from construction activities generally decrease at a rate of 6 dB per doubling of distance away from the activity. Thus, at a distance of 100 feet from the center of construction activities, construction noise levels would range from 69 to 80 dBA L_{eq}. At a distance of 500 feet from the center of construction activities, construction noise would range from 55 to 66 dBA L_{eq}. At a distance of 1,000 feet, construction noise could range up to 48 dBA L_{eq} to 60 dBA L_{eq}, but would likely be lower due to additional attenuation from ground effects, air absorption, and shielding from miscellaneous intervening structures.

While OCC is a state agency subject to building permit approvals by the Division of the State Architect, the city's Noise Control Ordinance provides some guidance regarding normal hours for construction activities (Mondays through Fridays, 7:00 a.m. to 7:00 p.m., and Saturdays, 9:00 a.m. to 6:00 p.m. (City of Costa Mesa 2010)). As part of the standard construction procedure for the project, the District would try to limit construction activities to Mondays through Fridays, 7:00 a.m. to 7:00 p.m., and Saturdays, 9:00 a.m. to 6:00 p.m. No construction activities are expected on Sundays or during federal holidays, and construction is not expected to occur during nighttime hours. Accordingly, the proposed project would not result in exposure of persons to or generation of noise levels in excess of standards established in the city's Noise Control Ordinance or other applicable noise standards.

However, noise from construction would be audible and would temporarily elevate the local ambient noise level to some degree at on-site distances greater than 100 feet from construction; therefore, impacts would be significant. In an effort to avoid construction noise impacts, mitigation measure (MM) NOI-1 is required to control construction noise to the extent practicable and feasible.

With implementation of MM-NOI-1, construction noise would have less than significant impacts. No additional mitigation is required for conventional construction activities.

Long-Term Operational Noise Impact

Off-Site Noise Impacts. As a result of regional population and employment growth, as well as campus growth under the Vision 2020 Facilities Master Plan, traffic on local arterial streets is expected to increase relative to current conditions. Potential noise effects from vehicular traffic were assessed using the Federal Highway Administration's Traffic Noise Model Version 2.5. Data used to model noise from vehicular traffic was derived from the project-specific traffic impact analysis report prepared by Linscott, Law and Greenspan (Appendix G; LLG 2015). Information used in the model included the existing (Year 2013), existing plus project, Year 2024 with cumulative projects, and Year 2024 with and without the project traffic volumes and speeds. Noise levels were modeled at representative noise-sensitive receivers. The receivers were modeled to be 1.5 meters (5 feet) above the local ground elevation.

Four receptors (M1, M2, M3, and Multi-Family Residential) represent existing off-site residences and one receptor (School) represents Costa Mesa High School; all five of these receptors are adjacent to the major arterials in the vicinity of the proposed project. Traffic volumes were obtained from the traffic study conducted for the proposed project area for existing, existing plus project, 2024 with cumulative projects, and 2024 with and without project traffic conditions and used to model noise levels under those scenarios. Traffic noise impacts were calculated by comparing the existing (2013) baseline conditions, existing plus project, 2024 with cumulative projects, 2024 with project traffic scenarios.

The information provided from this modeling, along with the results from ambient noise survey measurements, was compared to the noise impact significance criteria to assess whether project-related traffic noise would cause a significant impact and, if so, where. The results of the comparisons are presented in Table 4.9-6.

Table 4.9-6
Project-Related Traffic Noise: Year 2024

Modeled Receptor	Roadway Intersection	Existing (2013)	Existing + Project	2024 with Cumulative Projects	2024 with Project	Maximum Noise Level Increase (dB)
M1: Multiple-family residences west of the project site	Adams Avenue, east of Harbor Boulevard	60	61	61	61	1
M2: Multiple-family residences north of Adams Avenue	Pinecreek/S Street and Adams Avenue	62	62	62	62	0

Table 4.9-6
Project-Related Traffic Noise: Year 2024

Modeled Receptor	Roadway Intersection	Existing (2013)	Existing + Project	2024 with Cumulative Projects	2024 with Project	Maximum Noise Level Increase (dB)
M3: Single-family residences south of Merrimac Way	Fairview Road and Merrimac Way	57	58	57	58	1
Multiple-family residences north of Merrimac Way	Merrimac Way and Harbor Boulevard	65	66	66	66	1
School east of Fairview Road	Merrimac Way and Arlington Avenue	66	67	67	67	1

Source: FHWA 2004.
Note: Project-related traffic noise levels are rounded to the nearest whole numbers.

As Table 4.9-6 shows, the proposed project would increase the noise level along these roads by 1 dB or less (rounded to whole numbers) along the study area roads in the vicinity of the campus. A change of 1 dB or less is within the tolerance limit of traffic noise prediction models. In community noise assessments, a 1 dB increase is not noticeable to the human ear. Therefore, due to the amount of increase in noise level (1 dB or less), noise impacts due to project-related traffic are not anticipated to be significant. The proposed project is not anticipated to result in significant noise increases or cause an exceedance of applicable noise standards. Therefore, the impact from traffic noise associated with the proposed project would be less than significant.

On-Site Noise Impacts. A student housing project, which would include 818 beds, is proposed to be developed in the northwest corner of the campus. Student housing project building(s) would be no more than four stories in height.

Traffic noise levels were modeled for the student housing project assuming minimum setbacks (i.e., distance between a noise-sensitive receiver and the roadway) of 45 feet from the centerline of the near lanes of traffic for housing along Adams Avenue. Traffic noise levels were also modeled for the OCC Village development concept assuming minimum setbacks of 30 feet from the centerline of the near lanes of traffic for housing along Merrimac Way. MM-NOI-2 would require noise control features, such as increased setbacks, landscaped berms and building placement for noise-sensitive land uses, which include the student housing project, in order to achieve an exterior noise level of 55 dBA CNEL. The impact of traffic noise on future on-site uses would be less than significant; nonetheless, MM-NOI-2 is proposed to ensure that noise levels remain less than significant for sensitive receptors within the student housing project.

Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction activities that might expose persons to excessive ground-borne vibration or ground-borne noise could cause a potentially significant impact. Ground-borne vibration information related to construction activities has been collected by the California Department of Transportation (Caltrans; 2004). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inch/second begin to annoy people. Ground-borne vibration is typically attenuated over short distances. The closest residence to the construction areas (proposed student housing project) would be located approximately 50 feet or more from the construction area. The heavier pieces of construction equipment, such as large bulldozers and loaded trucks, would have peak particle velocities of approximately 0.089 or less at a distance of 25 feet (DOT 2006). At these distances and with the anticipated construction equipment, the peak particle velocity would be below 0.1 inch/second at the adjacent residences. The heavier pieces of construction equipment used could include bulldozers, graders, loaded trucks, water trucks, and pavers. Vibration is very subjective, and some people may be annoyed at continuous vibration levels near the level of perception (or approximately a peak particle velocity of 0.01 inch/second). However, construction activities are not anticipated to result in continuous vibration levels that typically annoy people, and the vibration impact would therefore be less than significant. Pile driving, blasting, or other special construction techniques are not anticipated to be used for construction of the facilities identified in the Vision 2020 Facilities Master Plan; therefore, excessive ground-borne vibration and ground-borne noise would not be generated. Additionally, ground-borne vibration would not be associated with the proposed project following construction activities. No impacts related to excessive ground-borne vibration would occur.

Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Long-term operational noise would result from the proposed student housing project, the proposed OCC Village development concept, and associated campus facilities. The project would also generate off-site traffic noise along adjacent roads, including Adams Avenue, Fairview Road, and Merrimac Way, as well as overall traffic noise in the vicinity of the campus.

As mentioned previously and indicated in Table 5.9-6, the proposed project would increase the noise level along local roadways by 1 dB or less (rounded to whole numbers) in the vicinity of the site. This increase is not noticeable to the human ear. Therefore, due to the amount of increase in noise level (less than 1 dB, rounded to whole numbers), noise impacts due to project-related traffic are not anticipated to be significant due to the inability of potential residential receptors to detect an increase of less than 1 dB. Impacts would be less than significant.

Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction activities for the project would generally involve the following sequence: (1) site demolition, (2) site preparation, (3) grading, (4) trenching, (5) building construction, (6) paving, and (7) architectural coating. Noise levels generated by construction equipment would vary greatly, depending on factors such as the type and specific model of the equipment, the operation being performed, and the condition of the equipment. The average sound level of the construction activity also depends on the amount of time that the equipment operates and the intensity of the construction during this time.

A variety of equipment would be used during each subphase of construction, such as graders, scrapers, backhoes, loaders, cranes, dozers, water trucks, portable generators and air-compressors, and miscellaneous trucks.

The nearest off-site sensitive receptor to the proposed project construction activity would be multiple-family residential uses northwest of the OCC campus, located approximately 50 feet from the nearest point of planned construction (proposed student housing project) (see Figure 4.9-2, Off-Site Sensitive Receptors). Routine noise levels from conventional construction activities (with a typical number of equipment operating on the site) range from 75 to 86 dBA L_{eq} at a distance of 50 feet. Due to improvements in construction equipment silencing technology, these sound levels are 3 dB lower than the noise levels reported in the 1971 reference study. The typically quietest phase of building site construction for similar projects (i.e., schools) is that associated with constructing foundations (75 dBA L_{eq} at a distance of 50 feet), and the typically loudest phases, producing 86 dBA L_{eq} at 50 feet, are those associated with grading and finishing activities. Noise levels from construction activities generally decrease at a rate of 6 dB per doubling of distance away from the activity. Thus, at a distance of 100 feet from the center of construction activities, construction noise levels would range from 69 to 80 dBA L_{eq}. At a distance of 500 feet from the center of construction activities, construction noise would range from 55 to 66 dBA L_{eq}. At a distance of 1,000 feet, construction noise could range from 48 dBA L_{eq} to 60 dBA L_{eq}, but would likely be lower due to additional attenuation from ground effects, air absorption, and shielding from miscellaneous intervening structures.

As part of the standard construction procedure for the project, construction activities would likely be limited to Mondays through Fridays, 7:00 a.m. to 7:00 p.m. and Saturdays, 9:00 a.m. to 6:00 p.m. No construction activities are anticipated to occur on Sundays or during federal holidays, and construction would not occur during nighttime hours.

However, noise from construction would be audible and would temporarily elevate the local ambient noise level to some degree at on-site distances greater than 100 feet from construction;

therefore, impacts would be significant. In an effort to avoid construction noise impacts, MM-NOI-1 is required to control construction noise to the extent practicable and feasible.

With implementation of MM-NOI-1, construction noise would have less-than-significant impacts. No additional mitigation is required for conventional construction activities.

4.9.5 Mitigation Measures

Section 15126.4 of the CEQA Guidelines requires environmental impact reports (EIRs) to describe feasible measures that can minimize significant adverse impacts. The following mitigation measures have been evaluated for feasibility and are incorporated in order to reduce potentially significant impacts related to increases in noise levels from construction of the proposed project and operation (permanent impacts) of the project site.

MM-NOI-1 Prior to initiation of campus construction, the Coast Community College District shall approve a construction noise mitigation program including but not limited to the following:

- Construction equipment shall be properly outfitted and maintained with feasible noise-reduction devices to minimize construction-generated noise.
- Stationary noise sources such as generators or pumps shall be located away from noise-sensitive land uses if feasible.
- Laydown and construction vehicle staging areas shall be located away from noise-sensitive land uses if feasible.
- Whenever possible, academic, administrative, and residential areas that will be subject to construction noise shall be informed a week before the start of each construction project.
- All construction projects pursuant to the proposed project would be required to implement the above measures for control of construction noise.

MM-NOI-2 For future noise-sensitive land uses, such as the student housing project that would be constructed under the proposed project, building and area layouts shall incorporate noise control as a design feature, if feasible. Noise control features could include increased setbacks (minimum of 30 feet from the centerline of the near lanes of Adams Avenue and Merrimac Way), landscaped berms, and building placement that would shield noise-sensitive exterior areas from direct roadway exposure. The campus may also use other noise attenuation measures, such as double-paned windows and insulation, in order to achieve an exterior community noise equivalent level of 55 A-weighted decibels (55 dBA CNEL).

4.9.6 Level of Significance After Mitigation

Mitigation measure MM-NOI-1 in Section 4.9.5 would reduce impacts associated with short-term construction noise to less than significant. For long-term operational noise, implementation of MM-NOI-2 would reduce impacts to less than significant.

4.9.7 Cumulative Impacts

Construction noise impacts primarily affect the areas immediately adjacent to the construction site. The closest cumulative project, as listed in Table 4.12-7, is the senior apartments located at 1500 Mesa Verde Drive in Costa Mesa, California, which is located approximately 0.20 mile west of OCC. Temporary construction activities are likely to include only piece of standard construction equipment; no pile driving or blasting activities are expected. Additionally, the senior apartment project would need to comply with the city's Noise Control Ordinance related to construction activities (Mondays through Fridays, 7:00 a.m. to 7:00 p.m., and Saturdays, 9:00 a.m. to 6:00 p.m.; no construction activities on Sundays or during federal holidays) (City of Costa Mesa 2010). Thus, although several construction activities may occur simultaneously at several areas on campus and in the surrounding community, given the distance between the project site and the cumulative projects within the City of Costa Mesa or City of Newport Beach and the cumulative projects' compliance with the local jurisdictional noise standards, it is unlikely that the noise increase would exceed 3 dB (the minimum change in the sound level of individual events that an average human ear can detect). Therefore, the increased noise would not result in significant cumulative impacts.

As shown in Table 4.9-6, the proposed project's traffic-related impacts would result in a 1 dB or less increase (rounded to whole numbers) along the adjacent roadways. Therefore, the increase in noise associated with cumulative traffic would not be cumulatively considerable and would be less than significant.

4.9.8 References

8 CCR 5095–5100 and Appendices A–F. Article 105: Control of Noise Exposure.

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

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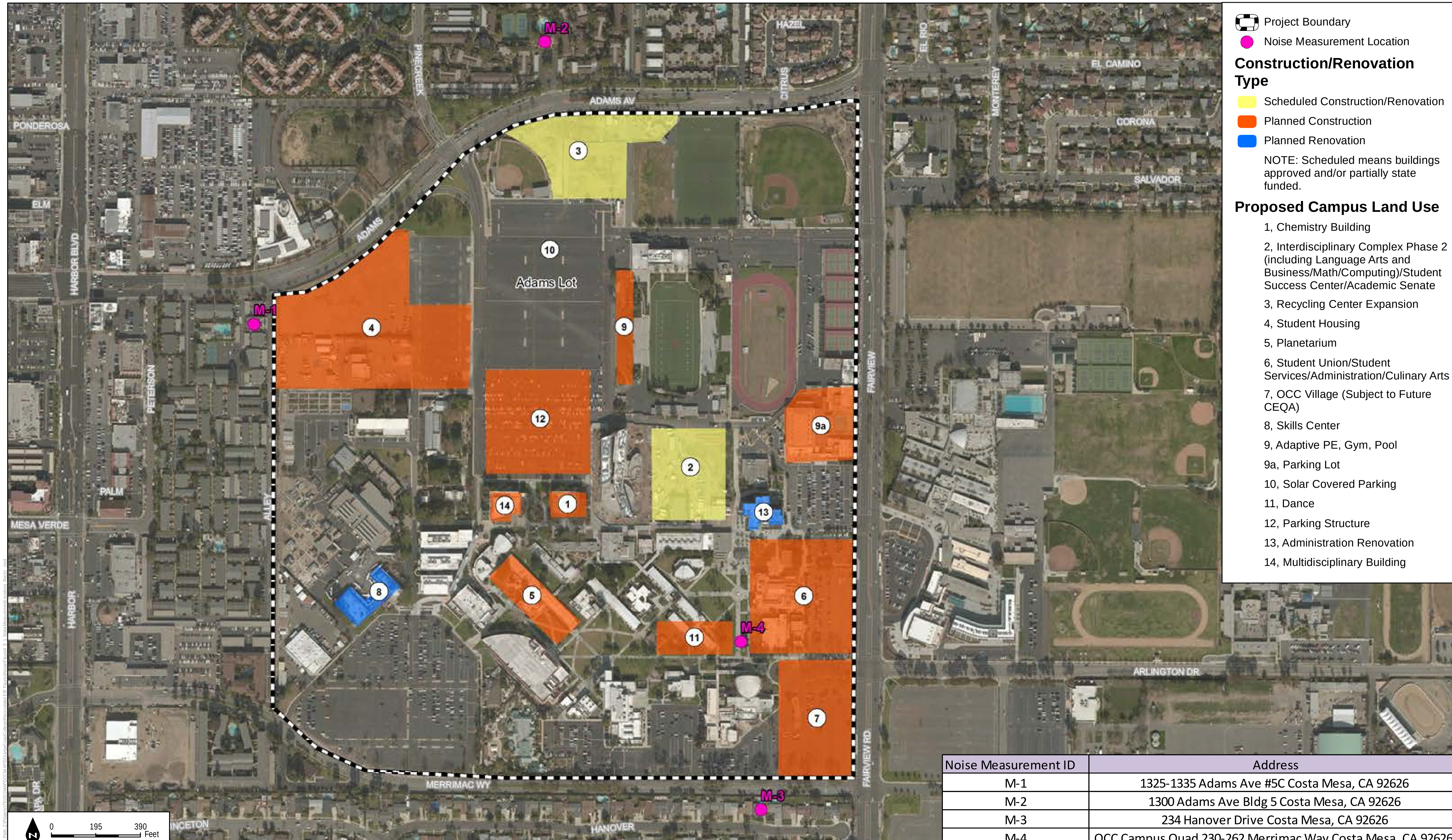

Noise Measurement ID	Address
M-1	1325-1335 Adams Ave #5C Costa Mesa, CA 92626
M-2	1300 Adams Ave Bldg 5 Costa Mesa, CA 92626
M-3	234 Hanover Drive Costa Mesa, CA 92626
M-4	OCC Campus Quad 230-262 Merrimac Way Costa Mesa, CA 92626

SOURCE: Bing Imagery, 2015, Coast Community College Vision Plan 2012, County of Orange.

FIGURE 4.9-1

Noise Measurement Locations

7910

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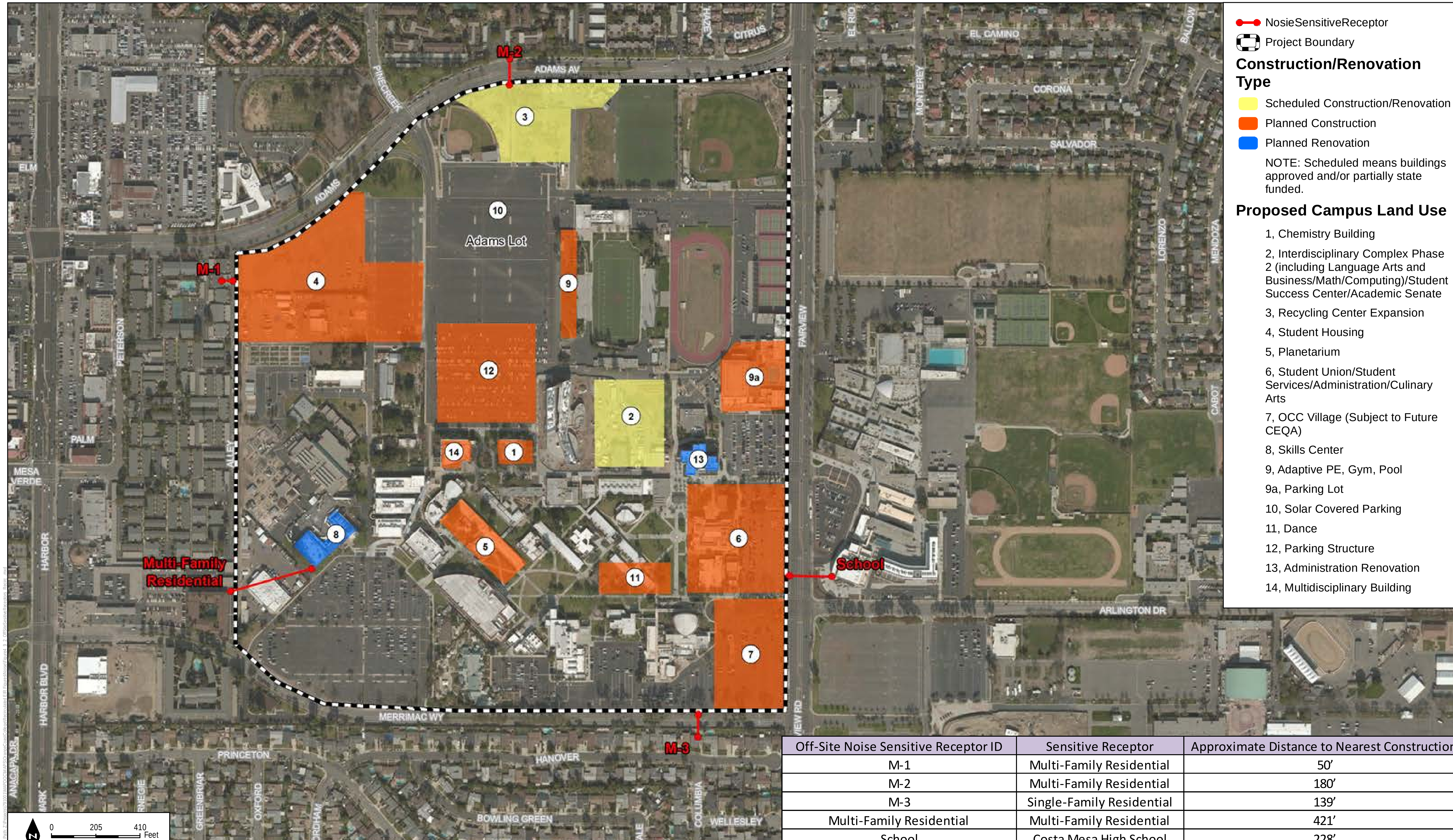

Off-Site Noise Sensitive Receptor ID	Sensitive Receptor	Approximate Distance to Nearest Construction
M-1	Multi-Family Residential	50′
M-2	Multi-Family Residential	180′
M-3	Single-Family Residential	139′
Multi-Family Residential	Multi-Family Residential	421′
School	Costa Mesa High School	228′

SOURCE: Bing Imagery, 2015, Coast Community College Vision Plan 2012, County of Orange.

FIGURE 4.9-2

Off-Site Sensitive Receptors

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4.10 POPULATION AND HOUSING

This section describes the existing population and housing trends in Southern California, County of Orange, and the Orange Coast College (OCC) campus. This section evaluates consistency with applicable plans, policies, and regulations as they relate to population and housing. It also evaluates potential impacts to population and housing related to implementation of the proposed OCC Vision 2020 Facilities Master Plan (proposed project). Data sources for this section include Southern California Association of Governments (SCAG) data, County of Orange data, and data from OCC.

4.10.1 Existing Conditions

The following subsections provide an overview of existing conditions related to population and housing in Southern California, the County of Orange, the City of Costa Mesa, and the OCC campus.

4.10.1.1 Regional Conditions

Population

The SCAG region is the second-most populous metropolitan region in the nation. The U.S. Census reported the 2010 population of the SCAG region was 18,051,534. Approximately 6% of the national population lives in the SCAG region, and for over half a century it has been home to approximately half of the population in California (SCAG 2012a). Southern California will lead the state's growth over the next 50 years (2010 to 2060), growing by 8.3 million to 31 million in population. The pattern in which population growth occurs will vary according to race, ethnicity, and geography. The patterns are related to the baby-boom and to various waves of domestic and international migration. Some of the more rural counties will see an older population gradually replaced, but growth will tend to be more limited. In other areas closer to metropolitan areas, populations are likely to become more diverse, with younger populations moving in and contributing to more rapid growth (DOF 2013). Between the years 2008 and 2030, the population in Southern California will increase by 4,195,000 people, which is equivalent to an increase of approximately 19%.

Housing

The recent housing shortfall has left California with one of the tightest and most expensive housing markets in the nation, despite the overall decline in median prices resulting from the current national recession. There are many reasons for the housing production shortfall, including the increasing cost of land, particularly in the coastal areas where housing demand is strongest. General economic and residential financing circumstances also come into play. According to SCAG, Southern California is expected to add 1,511,000 households between 2008 and 2035, which is an increase of 20.6%. The average household size in the SCAG region is 3.05 persons per household. Of the 648,000 new housing units expected in 2020, 28% will be at a minimum 30 dwelling units per acre; and of the 1.5 million new housing units expected in 2035, 34% will be at a minimum 30 dwelling units per acre. These projected housing densities will help the region accommodate the projected housing needs at all income levels (SCAG 2012a).

Employment trends in Southern California have long followed a "boom and bust" cycle. Much of the 2000s saw a boom of housing development, particularly in the Inland Empire, only to be followed by a bust starting in 2008. This resulted in impacts to employment, particularly in the construction (housing) and service sectors. In 2010, Imperial County had the highest unemployment rate in the SCAG region (almost 30%), while Orange County had the lowest in the SCAG region (9.6%, on par with the national average) (SCAG 2012a).

Table 4.10-1 below represents the forecasted population, households, and employment growth in Southern California from 2008 to 2035.

Table 4.10-1
Population, Households, and Employment Growth for the Southern California Region

	2008	2020	2035
Population	17,896,000	19,663,000	22,091,000
Households	5,814,000	6,458,000	7,325,000
Employment	7,738,000	8,414,000	9,441,000

Source: SCAG 2012b

4.10.1.2 County Conditions

Population

As of the 2010 census, the County of Orange was the third-most populous county in California, behind the Counties of Los Angeles and San Diego. The County of Orange is also the sixth-most populous county in the United States as of 2009 and the smallest county in Southern California by area. The population density in the County of Orange is approximately 3,175 people per square mile, which is much greater than the national average density of approximately 81 people per square mile. The most prevalent race in the County is white, which represents 60.82% of the total population. The average education level in the County is higher than the state average and the national average (World Media Group 2014). Between the years 2008 and 2035, the County will have an approximate increase in population of 432,000 people, or 12.6%. According to the 2010 Census, 83.6% of the population (age 25+) in the County of Orange is a high school graduate or higher (U.S. Department of Commerce 2010a). Estimates from the Department of Finance have determined that from 2000 to 2020, the under-20 age group will experience a decrease from 30% to 26%, which will hold steady through 2050, and the 20 to 24 age group will only show a slight decline from 7% in 2000 to 6% in 2030, which will hold steady through 2050. The population within the County will become more ethnically diverse, in line with state and national trends. Between 2010 and 2020, the county's Hispanic presence will grow from 36% to 42%. During the same period, Asians will increase from 16% to 18%, while Whites will decrease from 44% to 37% (OCC 2011).

Housing

The housing needs of the County are determined by demographic characteristics of the population (age, household size, employment, and/or ethnicity), and the characteristics of housing availability to that population (number of units, tenure, size, cost, etc.). As County demographics and household socioeconomic conditions change, different housing opportunities arise and/or must be created to meet demand. Future housing needs are affected by the number and type of new jobs created within the upcoming years. The overall growth is expected to add 287,400 new jobs and bring the employment of Orange County to almost 1,887,000 by 2014. Generally, residents who are employed in well-paying occupations have less difficulty obtaining adequate housing than residents in low-paying occupations. Orange County has a fairly large population of affluent homeowners; therefore, future planning efforts need to be place greater attention on the affordability gap in the resale of smaller and more moderately priced homes to lower-income and first-time homebuyers (County of Orange 2005).

Table 4.10-2 presents the forecasted population, household, and employment growth in the County from 2008 to 2035.

Table 4.10-2
Population, Households, and Employment Growth for the County of Orange

	2008	2020	2035
Population	2,989,000	3,266,000	3,421,000
Households	987,000	1,049,000	1,125,000
Employment	1,624,000	1,626,000	1,779,000

Source: SCAG 2012b

4.10.1.3 Local Conditions

Population

The City of Costa Mesa is one of the more populated cities in the County. The population in the City of Costa Mesa is approximately 3.5% of the total population in the County. The population is expected to increase by 4,900 people, which is a 4.3% increase between 2008 and 2035. The population in the City of Costa Mesa is predominantly white at 68.5%. Black or African

American account for 1.5% of the population and Asians account for 7.9%, which is relatively low compared to the 6.2% and 13.0% of those populations in the State of California, respectively (U.S. Department of Commerce 2010b).

Housing

The City of Costa Mesa has a smaller average household size than the County and the state, generally reflecting a community where young families with children and young adults represent a smaller percentage of the community. However, consistent with countywide and statewide trends, average household size in the City of Costa Mesa has been steadily rising. Persons per household are 2.67 in the City of Costa Mesa, 3.01 in the County of Orange, and 2.93 in the State of California. According to the U.S Census, the majority of households in 2010 were valued between $200,000 and $299,999. Employment in the City of Costa Mesa is expected to decrease by 5.7% between 2008 and 2035, which could be directly related to the slow growth in the housing market (2.9%) (U.S. Department of Commerce 2010b).

Table 4.10-3 below presents the forecasted population, household, and employment growth in the City of Costa Mesa from 2008 to 2035.

Table 4.10-3
Population, Households, and Employment Growth for the City of Costa Mesa

	2008	2020	2035
Population	109,100	113,700	114,000
Households	39,700	40,100	40,900
Employment	94,200	88,300	88,800

Source: SCAG 2012b

4.10.1.4 OCC Campus Conditions

Population

Using the OCC campus as the center point, the range in effective service area has increased from 7.5 to 10 miles over the past 4 years. Approximately 70% of the students attending OCC are 24 years of age or younger; overall, 45% of students are under 21 years of age. There is a 7% declining trend for in-District enrollments over the past 10 years and a 7% increasing trend for out-of-District enrollments. The in-District cities of Costa Mesa and Huntington Beach have recorded the greatest declines over the past 10 years, and the out-of-District cities of Santa Ana, Orange, Tustin, Anaheim, and Irvine have provided a steady and significant percentage of the student population at OCC over the past 10 years (District 2011). OCC's success in attracting students from outside the District is projected to continue in the future. For the period of 2009 to 2020, unduplicated student enrollments are project to grow from 25,947 in 2009 to 28,332 by 2020. The effective annual average growth rate for enrollment is projected to be 0.84% (District 2011).

Housing

No student or faculty housing currently exists on the OCC campus.

4.10.2 Relevant Plans, Policies, and Ordinances

There are no federal or state laws or regulations related to housing that are applicable to the proposed project.

Local Setting

City of Costa Mesa General Plan

Accommodating the housing needs of the State of California is an important goal for the City of Costa Mesa. As the population of the state and region continue to grow and pressure on resources increase, Costa Mesa is concerned with providing adequate housing opportunities while maintaining a high standard of living for all citizens in the community. The following goal and objectives are outlined in the Housing Element (City of Costa Mesa 2014) and pertain to the proposed project.

<u>Housing Element</u>

- **Goal HOU-3: Provision of Adequate Sites.** It is the goal of the City of Costa Mesa to provide adequate, suitable sites for residential use and development or maintenance of a range of housing that varies sufficiently in terms of cost, design, size, location, and tenure to meet the housing needs of all segments of the community at a level that can be supported by infrastructure. This goal can be achieved by adhering to the following policies.
    - **Policy HOU-3.1:** Encourage the conversion of existing marginal or vacant motels, commercial and/or industrial land to residential, where feasible and consistent with environmental conditions that are suitable for new residential development.
    - **Policy HOU-3.2:** Provide opportunities for the development of well-planned and designed projects which, through vertical or horizontal integration, provide for the development of compatible residential, commercial, industrial, institutional, or public uses within a single project or neighborhood.

4.10.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to population and housing are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to population and housing would occur if the project would:

1. ***Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)***
2. ***Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere***
3. ***Displace substantial number of people, necessitating the construction of replacement housing elsewhere.***

The Initial Study analyzed these thresholds of significance and determined that thresholds 2 and 3 have “no impact.” Campus plans are to renovate and construct educational facilities, construct student housing, construct a new parking structure, and construct auxiliary facilities serving students and the surrounding community. No housing units currently exist on the campus; therefore, existing housing would not be displaced. Furthermore, the proposed project would not displace substantial numbers of people. There are no plans to move any facilities that would result in the displacement of people from the project area.

4.10.4 Impacts Analysis

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

Student Growth

As demonstrated in Section 4.10.1, the population is projected to continue to increase throughout the region into the future. These changes in population growth and demography present an opportunity for the District to enhance and expand its educational offerings and services to a larger and more diverse group of students. The project proposes construction of a 303,688-gross-square-foot (GSF) student housing project on the corner of Adams Avenue and the campus entry. A mix of apartment units would be available to residents and could include up to280 units of efficiency, one-bedroom, two-bedroom, and four-bedroom configurations. In addition, 17 resident advisor and 1 professional staff apartment units would be included. Overall, there would be 818 beds associated with the student housing project under this Master Plan planning horizon

(Brailsford and Dunlavey 2015 and Bohannon, pers. comm. 2015). Approximately 600 parking spaces would be provided for residents as part of the proposed project, and construction would occur during Phase 2 (2017–2019). Implementation of the proposed project is in conformance with the City of Costa Mesa's future population growth and the region's jobs-housing balance.

The student housing proposed as part of the Vision 2020 Facilities Master Plan would serve existing students on campus and would not be available to the general population. The on-campus housing would attempt to bridge the affordability gap (County of Orange 2005) between the housing stock that is available and is fairly high cost and a student population which is generally at the lower income brackets because of the time spent pursuing an education rather than in full-time employment.

Development of the proposed student housing project would increase the on-campus residential population from 0 to approximately 818. In addition, the proposed project would involve an increase in student enrollment. OCC had an enrollment of 21,410 students in 2012, and enrollment is projected to grow to 28,332 students by 2020 (District 2011; OCC 2012). According to SCAG, the City of Costa Mesa is expected to have a population of 113,700 by the year 2020. An increase of 818 on-campus residents and 6,922 new students associated with campus growth would account for 6.81% of SCAG's population projections, which would account for a minor percentage of SCAG's overall growth projections. Furthermore, the proposed student housing project on campus, as with all components of the proposed project, is specifically intended to accommodate projected enrollment increases at OCC. Impacts as a result of increase in student growth would be less than significant.

Employee Growth

For the 2012 fall semester, the student headcount enrollment was 21,410 and the employee count was 948, representing a student-to-employee ratio of 23 to 1 (CCCO 2015). Assuming that this same ratio is maintained upon buildout of the proposed project, this would result in an employee count of 1,232, or a net growth of 284 employees by the year 2020. Thus, OCC would experience a 23.1% increase in employees, which is only 0.32% of SCAG's overall growth projection of 88,300 employees for the City by 2020. Therefore, employee growth is consistent with SCAG's overall growth projections and would not result in a substantial increase in employment growth. Impacts as a result of increase in employees would be less than significant.

Visitor Attraction

The District would like to increase entrepreneurial activities and attract visitors to the campus through development of the OCC Village in the southeast portion of the campus, the redevelopment of the Recycling Center on the north side of campus, and the development of a new Planetarium, which would attract K–12 students and other visitors. The proposed OCC

Village would include 104,871 GSF of commercial/retail uses and conference space in its ultimate buildout which is anticipated to occur beyond the 2024 time frame. The District envisions a private partner that has yet to be identified, and this project has not yet been scheduled for construction. Operation of the OCC Village would result in indirect increases in population related to a growth in employees to serve the Village and visitors to the Village which is accounted for in the student growth projections. The OCC Village would not increase the student population since the uses in the Village would be campus-supporting uses related to education programs on campus.

The redevelopment of the Recycling Center on the north side of campus would primarily enhance pedestrian and vehicular safety on approach to and within the Recycling Center. Improvements to this facility would include the expansion of the center and reconfiguration to alleviate traffic congestion on Adams Avenue. The expansion would provide greater on-site space for visitors to drop off sorted recyclable materials at designated areas. The expansion of the site would also involve increasing the number of parking spaces from approximately 8 to 45 dedicated spaces. Therefore, the expansion would be able to accommodate triple the number of visitors to the Recycling Center. Expansion of the Recycling Center would result in direct and temporary increases in population.

The proposed Planetarium would be used by the college and the community as an educational resource. This proposed 13,359 GSF facility would be sited to allow for public access from Parking Lot E. The Planetarium would provide educational and entertainment opportunities by showing visual simulations of the night sky as it would appear from any point of latitude on earth. The Planetarium would attract K–12 students learning about astronomy and any other interested party. Development of the proposed Planetarium would result in direct and temporary increases in population.

The temporary increases in population due to visitors of the OCC Village, Recycling Center, and the Planetarium would not result in substantial population growth. Therefore, the proposed project would not exceed local population projections, and the proposed project is not considered to be growth-inducing. Impacts would be less than significant and no mitigation is required.

4.10.5 Mitigation Measures

Impacts associated with population and housing are found to be less than significant and no mitigation is required.

4.10.6 Level of Significance After Mitigation

Impacts associated with population and housing are found to be less than significant and no mitigation is required.

4.10.7 Cumulative Impacts

Cumulative impacts to population and housing would result from a combination of projects that induce population growth, displace substantial numbers of housing, or displace substantial numbers of people. The proposed project would not displace housing or people because the OCC campus does not have any existing housing facilities on campus. It was determined in the Initial Study that thresholds associated with the displacement of housing or people would have no impact and did not need further analysis. As described in Section 4.10.4, the proposed student housing project would increase the on-campus residential population from 0 to approximately 818, but that this is not new growth in addition to the student enrollment because the housing would accommodate currently enrolled students. However, this projection is consistent with SCAG's growth projections for the City of Costa Mesa and the student housing project is specifically intended to accommodate projected enrollment increases at OCC. The temporary increases in population due to visitors of the OCC Village, Recycling Center, and the Planetarium, would not result in substantial population growth. The City of Costa Mesa is highly urbanized and cumulative projects are primarily urban infill projects that would not substantially induce new growth into the area. In combination with the proposed project, impacts to population growth or housing availability would not be cumulatively considerable.

4.10.8 References

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4.11 PUBLIC SERVICES

This section describes the existing conditions with regard to fire and emergency services, police protection services and schools within the project site and vicinity. This section also identifies associated regulatory requirements and evaluates the Orange Coast College (OCC) Vision 2020 Facilities Master Plan's (proposed project's) potential impacts to public services. Information provided in Section 4.11.1, Existing Conditions, is based on communications with individuals from the OCC Campus Public Safety Department (Campus Safety), the Costa Mesa Fire Department (Fire Department), and the Costa Mesa Police Department (Police Department). Online resources such as annual statistics and security, crime, and fire reports from OCC Campus Safety, the Fire Department, and the Police Department, as well as enrollment information from the Newport–Mesa Unified School District, were also used. Impacts of the proposed project were also evaluated using information provided by the City of Orange Fire Department, California State University (CSU) Fullerton, and Chapman University.

4.11.1 Existing Conditions

4.11.1.1 Fire Protection and Emergency Medical Response

OCC Campus Safety is the first responder to emergency calls made on campus. Campus Safety Officers are required to acquire certification in first aid, cardiopulmonary resuscitation (CPR), and automated external defibrillator (AED) training. Officers are non-sworn, but are required to pass the Peace Officer Standards and Training (POST)-certified 832.2 School Peace Officer Course, offered at the Golden West College Criminal Justice Training Center (OCC 2013a). On-duty officers are on patrol 24 hours a day and 7 days a week (Farmer, pers. comm. 2013). The Campus Safety Office is located at 2701 Fairview Road on the southeast corner of campus in Parking Lot C, and is open from Monday through Thursday, 7:00 a.m. to 10:30 p.m., and Friday 7:00 a.m. to 4:30 p.m. (OCC 2013b).

Students and OCC employees can call 911 directly or contact Campus Safety through the red emergency phones located in campus classrooms or through phones outside the campus buildings. Calls made to 911 from cell phones are routed directly to Costa Mesa Police/Fire/Emergency (OCC 2013c). All emergency calls are monitored by Campus Public Safety, including calls from emergency phones located on campus (Farmer, pers. comm. 2013).

As required by the Crime Awareness Act of 1990,Section 485(A) and (F) of the Higher Education Act, and Title IX of the Education Amendments of 1972, OCC publishes its Campus Public Safety Department Annual Security Report every year. This report includes data regarding criminal offenses, student code of conduct violations, incident reports, enforcement, and public services provided by OCC Campus Safety. Table 4.11-1 presents a summary of these statistics (presented annually) for the 2012–2013 fiscal year (July 1 through June 30). In 2012–

2013, there were no incidents of aggravated assault, hate crimes, murder, rape, robbery, alcohol violations, bomb threats, harassment, indecent exposure, or possession/recovery of stolen property. Public services provided by Campus Safety include citizen assists, found property, personal escorts, and unsecured facilities locked by officers (OCC 2013a).

Table 4.11-1
Orange Coast College Campus Public Safety Department Annual Statistics (FY 2012–2013)

Category	Number of Incidents (2012–2013)
Medical aid	56
Accidental fire	2
Burglary	4
Grand theft	12
Petty theft	58
Theft (motor vehicle)	2
Assault (minor or verbal)	3
Narcotics violation	3
Sex offense	2
Vandalism	16
Weapons possession	1
Arrest	5
Accidental damage (OCC and personal property)	15
Traffic accident	43
Public services	2,945
Parking citation issued	11,390
Restraining order filed	4
Suspicious circumstance or person	2
Reckless driving	1
Trespassing	1
Disturbing the peace	1
Towed vehicle	18
Other[a]	225
Total	**14,809**

Source: OCC 2013a.
[a] Other incidents include information report, illegal use of disabled placard, lost items, petty theft of parking permit, and violation of student code of conduct.

The Campus Safety Office would contact the Fire Department during a fire or medical emergency on campus by calling 911. Fire Stations 5 and 1 would be the first-use and second-use responders, respectively, to emergency calls made by OCC (Seguin, pers. comm. 2013a). Fire Station 5 is at 2450 Vanguard Way, approximately 0.5 mile southeast of campus, and Fire Station 1 is at 2803 Royal Palm Drive, approximately 0.3 mile west of campus (see Figure 4.11-1, Existing Public Services) (City of Costa Mesa 2014a). In addition to Stations 1 and 5, the City of Costa Mesa (City) operates four fire stations within the City. Fire Stations 2, 4, 3, and 6 would respond, in that order, if additional support is needed in the event that Stations 5 and 1 cannot meet the immediate needs of a call for services independently, or do not have capacity to address the full extent of a larger incident (Seguin, pers. comm. 2013a). Stations 1, 2, 4, and 5 are equipped with paramedic engine companies. A 100-foot, tractor-driven aerial ladder truck, a truck company equipped with a 75-foot accommodation ladder and a 500 gallon water tank, and an urban search and rescue vehicle are housed in Stations 6, 3, and 4, respectively. The Fire Department is staffed with 78 sworn personnel, including 18 captains, 39 firefighters, and 21 engineers, as well as 5 unsworn civilian employees. The Fire Department has a response time goal of 5 minutes and 8 minutes for 90% of Code 3 medical- and fire-related emergencies, respectively. As of December 2013, actual response times for 2013 typically averaged 4 minutes and 56 seconds for medical-related Code 3 calls. For 90% of Code 3 fire-related emergencies in 2013, the Fire Department's response time averaged 5 minutes and 58 seconds (Seguin, pers. comm. 2013a).

The Emergency Medical Services section of the Fire Department is responsible for all basic and advanced emergency medical services (City of Costa Mesa 2014a). Data provided in Table 4.11-2, Orange Coast College Calls to Costa Mesa Fire Department (2012), summarize calls received by Campus Safety requesting Fire Department services. Although the campus location for each of the generated calls was not recorded by the Fire Department, Table 4.11-2 categorizes vehicle- and traffic-related calls under the parking facility land use and all other calls as calls from academic, administrative, auxiliary, and recreational land uses. OCC generated 70 calls during 2012 that necessitated assistance from the Fire Department (Seguin, pers. comm. 2013b). The call data, presented as follows, assumes the Fire Department would respond to incidents including fires, fire alarms, chemical spills or incidents, requests for medical aid, suicide attempts, public assist, and vehicle accidents.

Table 4.11-2
Orange Coast College Calls to Costa Mesa Fire Department (2012)

Category	Number of Incidents
Calls from Orange Coast College Parking Facilities	
Vehicle accident	2
Vehicle fire	1
Total calls from parking facilities	**3**
Average annual calls per parking stall	**3/9832 = 0.000305**
Calls from Academic/General Administrative/Auxiliary/Recreational Campus Land Uses	
Medical aid	58
Police matter	1
No incident found upon arrival/cancel en route	3
Ambulance request only	1
Public assist	1

Table 4.11-2
Orange Coast College Calls to Costa Mesa Fire Department (2012)

Category	Number of Incidents
Chemical incident (no spill or leak)	1
Person stuck in elevator	1
Grass fire	1
Total calls from academic/general administrative/auxiliary/recreational campus land uses	**67**
Average annual calls per assignable square foot	**67/651,951 = 0.0001028**
Total Calls Received from Orange Coast College	**70**

Sources: Seguin, pers. comm. 2013b; Pagel, pers. comm. 2014.

In addition to emergency medical services provided by the Fire Department, an on-campus Student Health Center provides basic first aid as needed Monday through Thursday. The Student Health Center is funded through a student health fee paid with tuition and only serves students attending OCC. The Student Health Center provides basic medical services where emergency services are not needed (OCC 2014).

4.11.1.2 Police Protection

Campus Safety is the primary law enforcement agency on campus. Officers are in direct contact with the Costa Mesa Police Department. Campus Safety Officers do not possess peace officer status, but they are authorized to make arrests by Section 837 of the penal code (OCC 2013b).

Table 4.11.1 (see Section 4.11.1.1) presents a summary of data (presented annually) regarding criminal offenses, student code of conduct violations, incident reports, enforcement, and public services provided by OCC Campus Safety for the 2012–2013 fiscal year.

The Campus Safety Office would contact the Police Department during an on-campus emergency where additional support is required. The Costa Mesa Police Station is at 99 Fair Drive, approximately 0.3 mile southeast of campus (see Figure 4.11-1). The Police Department (as of 2013) is composed of 213.5 full-time positions, which include 132 sworn personnel and 81.5 civilians, and includes 24.18 full-time equivalent part-time positions (City of Costa Mesa 2013a). The Police Department provides continuously available 911 call reception and communication services. Departments include administration, field operations, and support services (City of Costa Mesa 2014b).

The Police Department reported 4,365 crimes in Costa Mesa for the year 2012. The majority of crimes were attributed to larceny/theft, burglary and stolen vehicles (City of Costa Mesa 2013b). For the 2011–2012 fiscal year, the Police Department received 1,128 emergency calls, of which 76% were responded to within 5 minutes. There were 68,104 non-emergency calls, of which

95% were responded to within 15 minutes (City of Costa Mesa 2013b). No official response time goals have been set for the department (Gutierrez, pers. comm. 2014).

Table 4.11-3, Orange Coast College Calls for Police Service (2012), summarizes the calls for service generated by OCC for the year 2012 as provided by the Police Department. Although the campus location for each of the generated calls was not recorded by the Police Department, Table 4.11-3 categorizes vehicle- and traffic-related calls under the parking facility land use and all other calls as calls from academic, administrative, auxiliary, and recreational land uses. The Police Department received 431 calls for service for the year 2012 from OCC. However, 164 calls were false calls; these calls are not reflected in Table 4.11-3.

Table 4.11-3
Orange Coast College Calls for Police Service (2012)

Category	Number of Incidents (2012–2013)
Calls from Parking Facilities	
Traffic collision	9
Car fire	1
Audible car alarm	3
Traffic hazard	7
Traffic violation (including bicyclists)/parking violation/vehicle tow	18
Hit and run (vehicle/person/property)	13
Suspicious vehicle	1
Theft from vehicle/stolen vehicle/vehicle burglary/auto theft	17
Total calls from parking facilities	**69**
Average annual calls per parking stall	**69/9832 = 0.007018**
Calls from Academic/General Administrative/Auxiliary/Recreational Campus Land Uses	
Medical aid	61
Fire alarm	1
Chemical spill	1
Person stuck in elevator	1
Petty theft/property report/robbery	15
Grand theft	3
Commercial burglary	2
Vandalism	5
Keeping the peace/disturbance/violation of restraining order/stalking/stakeout	18
Public intoxication	6
Lewd conduct	1
Battery/assault	7
Warrant for arrest	1
Suspicious activity/person	14
Counterfeit money	1

Table 4.11-3
Orange Coast College Calls for Police Service (2012)

Category	Number of Incidents (2012–2013)
Threat (violence or suicide)	3
Trespassing	2
Missing child/person	5
Child negligence/injured child	2
Animal control/dead animal/injured animal	17
Animal cruelty	9
General broadcast	4
Public assist	3
Patrol check	12
Crime scene investigation request	1
Follow-up report	3
Total calls from academic/general administrative/auxiliary/recreational campus land uses	**198**
Average annual calls per assignable square foot	**198/651,951 = 0.0003037**
Total Calls Received from OCC	**267**

Sources: City of Costa Mesa 2014c; Pagel, pers. comm. 2014.

4.11.1.3 Schools

Eight schools in the Newport–Mesa Unified School District are located in the vicinity of the proposed project. Schools in the general vicinity of the proposed project are shown in Figure 4.11-1, Existing Public Services. Table 4.11-4, Schools within Project Vicinity and Associated Enrollment Levels, lists the public schools in the project vicinity (within 1 mile) and student enrollment levels for each school. Other schools in the area include Montessori Harbor–Mesa Preschool, Montessori Harbor–Mesa Elementary School, and Shekinah Christian School.

Table 4.11-4
Public Schools within Project Vicinity and Associated Enrollment Levels

School Name	Location	Enrollment
Preschool and Elementary Schools		
Davis Magnet School	1050 Arlington Drive	561
College Park Elementary	2380 Notre Dame Road	591
Adams Elementary	2850 Club House Road	425
Sonora Elementary	966 Sonora Road	512
Killybrooke Elementary	3155 Killybrooke Lane	428
Paularino Elementary	1060 Paularino Avenue	445

Table 4.11-4
Public Schools within Project Vicinity and Associated Enrollment Levels

School Name	Location	Enrollment
Middle and High Schools		
Costa Mesa High School and Middle School	2650 Fairview Road	1,125
Early College High School	2990 Mesa Verde Drive	233
Total enrollment of public schools in the vicinity of OCC		4,320

Sources: N-MUSD 2013.

4.11.2 Relevant Plans, Policies, and Ordinances

Local

Costa Mesa General Plan, Land Use Element

Objective LU-3A. Ensure availability of adequate community facilities and provision of the highest level of public services possible, taking into consideration budgetary constraints and effects on the surrounding area.

- LU-3A.3 Establish a development impact fee program to fund additional fire and police personnel, facilities, and equipment to meet the demands of additional growth in the City.
- LU-3A.4 Require appropriate site and environmental analysis for future fire and police station site locations or for the relocation or closure of existing fire and police facilities.

Costa Mesa General Plan, Community Design Element

Objective CD-14. Incorporate public safety considerations into community design.

- CD-14.1 Decrease the opportunity for criminal activity by addressing high risk circumstances (i.e., a dark alley, an enclosed stairwell, and dark entrances). Involve the Police and Fire Department in reviewing and making design recommendations during the project review period.
- CD-14.2 Continue to implement and refine development standards and/or guidelines based on Crime Prevention Through Environmental Design (CPTED) for new development and redevelopment with emphasis on site and building design to minimize vulnerability to criminal activity.
- CD-14.3 Continue to provide CPTED training to City staff and local planning and design professionals to optimize public safety through community design.

Orange Coast College Campus Public Safety Department

As described in the Annual Security Report prepared by OCC Campus Safety, it is the goal of Campus Safety to anticipate and prevent crimes and property damage as well as to respond to all incidents on the campus when needed and to request assisting agencies, such as the Police Department, the Fire Department, and paramedics, when appropriate.

4.11.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to public services are based on Appendix G of the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines; 14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to public services would occur if the project would:

1. ***Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:***
   a. ***Fire protection.***
   b. ***Police protection.***
   c. ***Schools.***
   d. ***Parks.***
   e. ***Other public facilities.***

The Initial Study eliminated Thresholds d and e from further analysis and therefore are not covered in the impacts analysis. Threshold d was eliminated because the proposed project would have no impact on local parks. The proposed project area would experience an increase in population; however, the campus offers athletic fields and recreational opportunities, so nearby parks would not experience a significant increase in visitors and acceptable service ratios would be maintained. Threshold e was eliminated because the proposed project would have no impact on libraries and other public facilities. OCC has a library on campus to serve the students; therefore, any increase in student enrollment would not adversely affect local libraries and acceptable service ratios would be maintained.

4.11.4 Impacts Analysis

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

Fire protection?

The proposed project would generate additional demand for fire protection services by adding students residing on campus; additional academic, general administrative, and auxiliary space; additional parking facilities; and a general increase in the number of students.

Projected call ratios as presented in Table 4.11-5, Projected Fire Department Calls to Service from Orange Coast College, were formulated based on baseline call ratio data as presented in Table 4.11-2. Call ratios in Table 4.11-2 were categorized according to the land use in which the calls were generated. The proposed project would involve the development of a student housing project and would therefore introduce a residential/student housing land use that does not currently exist on the campus. Therefore, no baseline data exists regarding calls generated from this land use category. Call generation rates were formulated based on data provided by Chapman University and CSU Fullerton (Fackiner, pers. comm. 2014; CSU Fullerton 2013) as presented in Table 4.11-6, Fire Department Calls for Service from Orange County University Residences (2012). This data only reflects incidents that occurred at on-campus student residence halls. Nearby universities were chosen to formulate projected OCC call generation rates due to a similarity in their environments, because all are college campuses located in Orange County.

Table 4.11-5 shows the projected fire-related calls anticipated for the proposed project. As shown in Table 4.11-5, the proposed project would generate approximately 129 additional calls per year to local fire service providers upon completion of the proposed project. The call ratio of 0.056 calls per resident (CSU Fullerton call ratio; see Table 4.11-6) was used to represent calls generated from OCC campus residents in order to provide a conservative estimate.

Table 4.11-5
Projected Fire Department Calls to Service from Orange Coast College

Call Origin	Average Annual Calls per Resident/ per Square Foot/per Parking Stall/per FTE	Resident/Square Foot/Parking Stall/FTE Net Increase	Projected Additional Calls (per Year)
Student housing and residential	0.056 per resident	818 residents[a]	46

Table 4.11-5
Projected Fire Department Calls to Service from Orange Coast College

Call Origin	Average Annual Calls per Resident/ per Square Foot/per Parking Stall/per FTE	Resident/Square Foot/Parking Stall/FTE Net Increase	Projected Additional Calls (per Year)
Academic/general administrative/auxiliary/recreational	0.0001028 per square foot	807,992square feet[b]	83
Parking facilities	0.000305 per parking stall	1,087 parking stalls[c]	0
	Total	—	**129**

Source: Bohannon, pers. comm. 2015.
Notes: Refer to Table 3-5 of Chapter 3.0, Project Description for buildings and facilities ASF.
[a] It is anticipated that 800 student beds, 17 resident advisor units, and 1 professional staff apartment will be provided on campus as part of the student housing project. [b] Upon buildout of the proposed project, the campus will have 1,037,642 assignable square feet (ASF) of academic, general administration, residential, and auxiliary space in addition to the existing square footages on campus. The student housing project would be approximately 229,650 ASF. Calls associated with the student housing project are accounted for in the call ratio per resident; therefore, the associated square footage was subtracted from the 1,037,642 ASF of new space and result in a total of 807,992ASF of academic, general administration, and auxiliary space (excludes residential space).
[c] The proposed project would result in a net gain of 1,087 parking spaces. A total of 1,200 spaces would be lost due to the construction of the student housing project, OCC Village, and the Student Union/Bookstore/Culinary Arts/Student Success Center. The construction of the parking structure would result in a net gain of 1,500 parking spaces. Buildout of the mixed-use development, student housing project, and Recycling Center Expansion would introduce 150, 600, and 37 additional parking spaces, respectively.

Table 4.11-6
Fire Department Calls for Service from Orange County University Residences (2012)

Call Origin	Call To	Existing Residents	Number of Calls for Service Generated from Residence Halls	Call Ratio (per Resident)
CSU Fullerton	City of Fullerton Fire Department	2,000 residents	112[a]	0.056
Chapman University	City of Orange Fire Department	2,000 residents	37[b]	0.019

Sources: CSU Fullerton 2013, 2014; Miller, pers. comm 2014; Fackiner, pers. comm. 2014.
[a] Number of calls for CSU Fullerton reflects incidents that include fires, fire alarms, suicide attempts, and medical aid.
[b] Number of calls for Chapman University reflects medical calls (36) and calls for service (1) from the on-campus residence halls. The City of Orange Fire Department did not record the calls for service from the Harris Apartments because these apartments do not have a physical address. There were no fires or fire alarms that necessitated response from the City of Orange Fire Department for the year 2012.

As discussed in Section 4.11.1.1, Fire Protection and Emergency Medical Response, the Fire Department maintains average response times of approximately 5 minutes and 58 seconds for fire-related Code 3 calls and 4 minutes and 56 seconds for medical-related Code 3 calls. Fire Department response times are compliant with the response time goal to secure the deployment and arrival of the first-in engine company in 5 minutes for 90% of Code 3 medical-related calls and 8 minutes for 90% of Code 3 fire-related calls. For the year 2012, the Fire Department reported 10,655 total incidents (City of Costa Mesa 2013d). Considering that the Fire Department maintains their response time goals and that the proposed project would contribute an additional 129 calls annually in comparison to 10,655 total incidents per year, representing a projected increase in annual calls of 1.2%, the proposed project would not result in potentially significant impacts relating to fire protection.

Additionally, the buildings constructed as part of the proposed project would be subject to the requirements of the 2013 California Fire Code (24 CCR, Part 9). Therefore, because the proposed project would result in a limited number of additional calls for fire service, in combination with the fact that the proposed project would not result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, the proposed project would have a less than significant impact in regard to fire protection.

Police protection?

The proposed project would generate additional demand for campus security services by adding additional residents; additional academic, general administrative, and auxiliary, space; additional parking facilities; and a general increase in the number of students.

Projected call ratios as presented in Table 4.11-7, Projected Police Calls to Service from OCC, were formulated based on baseline call ratio data as presented in Table 4.11-3. Call ratios in Table 4.11-3 were categorized according to the land use in which the calls were generated. The proposed project would involve the development of a student housing project and would therefore introduce a residential/student housing land use that does not currently exist on the campus. Therefore, no baseline data exists regarding calls generated from this land use category. Call generation rates were formulated based on data provided by Chapman University and CSU Fullerton (Fackiner, pers. comm. 2014; Chapman University 2014; CSU Fullerton 2013) as presented in Table 4.11-8, Police Department Calls for Service from Orange County University Residences (2012). Nearby universities were chosen to formulate projected OCC call generation rates due to a similarity in their environments, because all are college campuses located in Orange County.

Table 4.11-7 provides a projection of future calls to the Police Department. As shown in Table 4.11-7, the proposed project would generate approximately 381 additional annual calls to the Police Department. The call ratio of 0.156 calls per resident (CSU Fullerton call ratio; see Table 4.11-8) was used to represent calls generated from OCC campus residents in order to provide a conservative estimate.

Table 4.11-7
Projected Police Calls to Service from OCC

Call Origin	Average Annual Calls per Resident/per Square Foot/per Parking Stall/per FTE	Resident/Square Foot/Parking Stall/FTE Net Increase	Projected Additional Calls (per Year)
Student housing and residential	0.156 per resident	818 residents[a]	128
Academic/general administrative/auxiliary/recreational	0.0003037 per square foot	807,992square feet[b]	245

Table 4.11-7
Projected Police Calls to Service from OCC

Call Origin	Average Annual Calls per Resident/per Square Foot/per Parking Stall/per FTE	Resident/Square Foot/Parking Stall/FTE Net Increase	Projected Additional Calls (per Year)
Parking facilities	0.007018 per parking stall	1,087 parking stalls[c]	8
	Total	—	**381**

Source: Bohannon, pers. comm. 2015.
Notes: Refer to Table 3-5 of Chapter 3.0, Project Description for buildings and facilities ASF.
[a] It is anticipated that 800 student beds, 17 resident advisor units, and 1 professional staff apartment will be provided on campus as part of the student housing project.
[b] Upon buildout of the proposed project, the campus will have 1,037,642 ASF of academic, general administration, residential, and auxiliary space in addition to the existing square footages on campus. The student housing project would be approximately 229,650 ASF. Calls associated with the student housing project are accounted for in the call ratio per resident; therefore, the associated square footage was subtracted from the 1,037,642 ASF of new space and the result is a total of 807,992ASF of academic, general administration, and auxiliary space (excludes residential space).
[c] The proposed project would result in a net gain of 1,087 parking spaces. A total of 1,200 spaces would be lost due to the construction of the student housing project, OCC Village, and the Student Union/Bookstore/Culinary Arts/Student Success Center. The construction of the parking structure would result in a net gain of 1,500 parking spaces. Buildout of the mixed-use development, student housing project, and Recycling Center Expansion would introduce 150, 600, and 37 additional parking spaces, respectively.

Table 4.11-8
Police Department Calls for Service from Orange County University Residences (2012)

Call Origin	Existing Residents	Number of Cases (2012–2013)	Call Ratio (per Resident)
CSU Fullerton	2,000 residents	312[a]	0.156
Chapman University	2,000 residents	213[b]	0.107

Sources: CSU Fullerton 2014; Miller, pers. comm. 2014; Chapman 2014.
[a] Number of cases for CSU Fullerton reflects incidents that include welfare checks, vandalism, unknown trouble, suspicious persons, rape, petty theft reports, patrol checks, medical aids, intoxicated persons, informational visits, found property, fire alarms, fire, disturbing the peace, citizens assist, alcohol incidents, drug offenses, and residential burglary.
[b] Number of cases for Chapman University reflects incidents that include sex offenses, burglary, liquor law and drug law violations, and illegal weapons possession as well 36 medical calls made from the on-campus residence halls.

The proposed project would generate additional demand for campus police services by adding additional residents, additional classroom/office/auxiliary spaces, additional parking facilities, and a general increase in the number of students.

As described in Section 4.11.1.2, Police Protection, in the 2011–2012 fiscal year the Police Department received 1,128 emergency calls, 76% of which were responded to within 5 minutes. There were 68,104 non-emergency calls, 95% of which were responded to within 15 minutes (City of Costa Mesa 2013b). No official response time goals have been set for the department (Gutierrez, pers. comm. 2014).

The increase in on-campus student housing uses would result in increased calls to the Police Department and increased response times upon project buildout. With the addition of 381 calls annually, in comparison to 69,232 emergency and non-emergency calls per year received by the Police Department, the proposed project would result in a marginal increase (0.6%) in annual calls. In addition, OCC Campus Safety would continue to provide law enforcement on campus, and the proposed project area is already part of the normal patrol and enforcement area of Campus Safety. The Police Department would partner with OCC Campus Safety and provide additional support if required.

Therefore, in light of the proposed project's forecasted effect on existing response times, in combination with the fact that project implementation would not result in the need for new or physically altered governmental facilities, the proposed project would not result in potentially significant impacts to police services and no mitigation is necessary.

Schools?

The proposed project involves the development of a student housing project, which is anticipated to primarily serve a single student population. The proposed project would also result in an increase in student enrollment. OCC had an enrollment of 21,410 students in 2012 and is projected to grow to 28,332 students in 2020 (District 2011; OCC 2012). This increase in student enrollment could result in an increase of OCC students and employees living in the vicinity of the proposed project.

For the 2014 fall semester, 111 OCC students were enrolled in California Work Opportunity and Responsibility to Kids (CalWORKs) (CCCCO 2015). CalWORKS is a welfare program that gives cash aid services to eligible needy families (CDSS 2015). OCC students with children may be eligible for CalWORKs cash aid. There were 111 OCC students with children enrolled in the 2014 fall semester, and if this is assumed to be a reasonable proxy of the OCC population with children, then approximately 0.5% of the OCC student body have children. Applying this same percentage to the projected enrollment for 2020, the result would be 142 OCC students with children, or a net growth of 31 OCC students with children. According to the Southern California Association of Governments' Profile of the City of Costa Mesa, the average household size in the year 2014 for the City was approximately 2.7 (SCAG 2015). Assuming this average household size represents 1 child per household, then new OCC students could introduce 31 children to the area who would attend nearby schools (if all new OCC students were to live in the area).

For the 2012 fall semester, the student headcount enrollment was 21,410, and the employee count was 948 (CCCCO 2015), representing a student to employee ratio of 23 to 1. Assuming that this same ratio is maintained upon buildout of the proposed project, this would result in an employee count of 1,232, or a net growth of 284 employees. Applying the City's average household size (SCAG 2015) and assuming that there is an average of one child per household, new OCC employees could introduce 284 children to the area who would attend nearby schools (if all new OCC employees were to live in the vicinity of OCC).

New OCC students and employees could potentially introduce 315 children to the area who would attend nearby schools (if all new students and employees were to live in the vicinity of OCC). As discussed in Section 4.11.1.3, the 2013 enrollment totals for public schools within the vicinity of OCC was approximately 4,320. Upon comparing this 2013 enrollment total to the projected increase of children in the area who would be introduced by OCC students and employees, this could result in a 6.6% increase in enrollment of public schools within the vicinity of OCC.

Considering the proposed project would result in a marginal increase in public school enrollment within the vicinity of OCC, and project implementation would not result in the need for new or physically altered governmental facilities, impacts would be less than significant, and no mitigation is required.

4.11.5 Mitigation Measures

Impacts related to public services were found to be less than significant; therefore, no mitigation measures are necessary.

4.11.6 Level of Significance After Mitigation

Since there are no significant impacts requiring mitigation, residual impacts would be less than significant.

4.11.7 Cumulative Impacts

Section 15130(b)(1)(A) of the CEQA Guidelines allows for the preparation of a list of past, present, and reasonably anticipated future projects as a viable method of determining cumulative impacts. This discussion uses the following approach: an initial list and description of all related projects is presented, followed by a discussion of the effects that the project may have on each environmental category of concern. Consistent with CEQA (California Public Resources Code, Section 21000 et seq.), this discussion is guided by the standards of practicality and reasonableness.

This section of the analysis provides a list of past, present, and reasonably foreseeable future projects that the City determined were most relevant to the project. Several development proposals and City projects in proximity to the proposed project have been submitted for consideration or have been recently approved that together with the project may result in an increase in construction-related environmental impacts. Table 4.11-9, Cumulative Projects, presents development proposals within the City. The projects listed in Table 4.11-9 serve as the foundation on which the cumulative analysis approach has been based.

Table 4.11-9
Cumulative Projects

Project/Description	Address/Location	Phase/Estimated Buildout	Distance and Direction from Orange Coast College	First-Use Responding Fire Station
Approved Projects				
Senior housing residence – 224 units	1500 Mesa Verde Drive	Under construction; estimated buildout early 2015	0.2 mile west	Costa Mesa Fire Department, Station 1
Residential apartment – 113 units	421 Bernard Street	Under construction; estimated buildout early 2015	1.5 mile south	Costa Mesa Fire Department, Station 3
Walgreens – 14,310 square feet	1726 Superior Avenue	Demolition complete; estimated buildout early 2015	2 mile south	Costa Mesa Fire Department, Station 3
Projects in Review				
Commercial/residential mixed-use development – 36 units	2025 Placentia Avenue	In review	1.6 miles southwest	Costa Mesa Fire Department, Station 4
Residential apartment – 240 units	125 Baker Street	In review	1.6 miles northeast	Costa Mesa Fire Department, Station 2
Commercial/residential, mixed-use development – 89 units	1620 Whittier Avenue	In review	2.6 miles southwest	Costa Mesa Fire Department, Station 3
Medium/high-density residential – 37 units	573 Victoria Street	In review	1.10 miles southwest	Costa Mesa Fire Department, Station 4
Commercial/residential mixed-use development – 30 units	372 Victoria Street	N/A	1 mile south	Costa Mesa Fire Department, Station 5
Commercial/residential mixed-use development – 14 units	2075 Placentia Avenue	N/A	1.5 miles southwest	Costa Mesa Fire Department, Station 4

Sources: Ashabi, pers. comm. 2013; City of Costa Mesa 2013d; LLG 2015
Note: N/A = Not Available

The geographic extent for the analysis of cumulative impacts associated with public services consists of the City of Costa Mesa because public services are provided by the City.

As described in Section 4.11.1.1, Fire Protection and Emergency Medical Response, Fire Stations 5 and 1 would be the first-use and second-use responders, respectively, to emergency calls made by OCC (Seguin, pers. comm. 2013a). As described in Section 4.11.4, Impacts Analysis, the proposed project is not anticipated to have a significant impact with regard to fire protection services. Considering that only one of the cumulative projects described in Table

4.11-9 would rely on Fire Station 5 to provide first-use response services, the proposed project would not act in conjunction with projects in the vicinity to contribute to significant cumulative impacts; therefore, cumulative impacts would be less than significant.

As described in Section 4.11.4, Impacts Analysis, the proposed new on-campus student housing project would result in increased calls and increased response times. Based on existing service levels and the marginal projected increase in calls, response times would continue to be at similar levels at project buildout. Cumulative projects as described in Table 4.11-9 include multiple residential developments and would contribute to an additional demand for police services. However, OCC Campus Safety would be the primary police service provider on the OCC campus, and the Police Department would only provide additional support if required. The proposed project would not combine with projects in the vicinity to contribute to significant impacts; therefore, cumulative impacts would be less than significant.

As described in Section 4.11.4, the student housing project would provide residences for students attending OCC and is anticipated to primarily serve a single student population; however, the proposed project would involve an increase in student enrollment. This increase in student enrollment could result in an increase of OCC students and employees living within the vicinity of the proposed project. As described in Section 4.11.4, Impacts Analysis, the proposed project is not anticipated to have a significant impact with regard to schools, considering that there would be a marginal increase in new employees and students over the planning horizon of 10 years. Although the cumulative projects described in Table 4.11-9 would potentially create additional demand for nearby elementary and secondary schools, the proposed project would not contribute to a significant cumulative impact.

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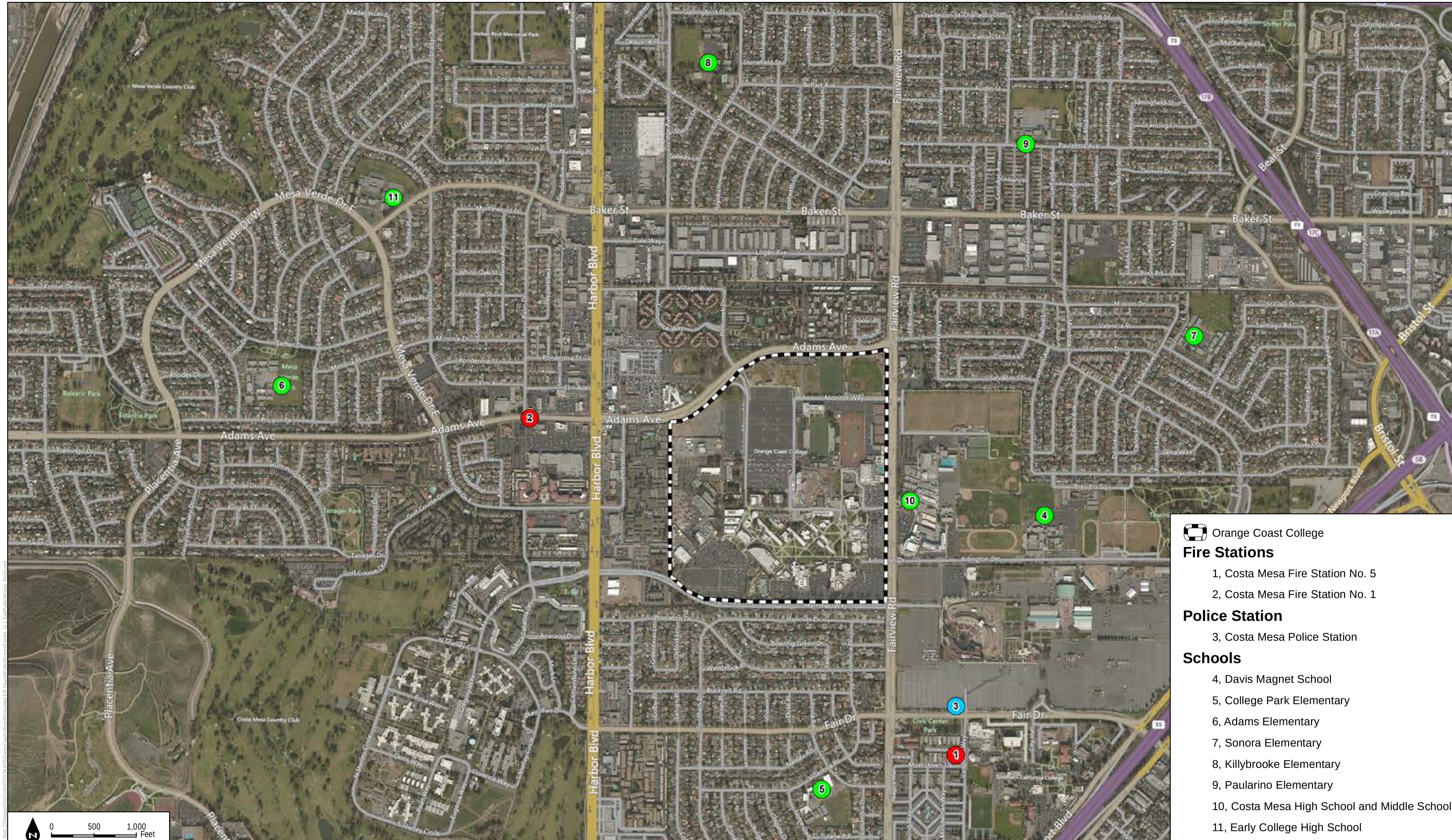

SOURCE: Bing Imagery, 2015; Coast Community College Vision Plan, 2012; County of Orange.

FIGURE 4.11-1

Existing Public Services

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4.12 TRAFFIC AND CIRCULATION

This section describes the existing traffic/circulation setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project). The analysis in this chapter is based on the traffic impact analysis report prepared by Linscott, Law & Greenspan (LLG) (June 2015). The traffic analysis evaluates the existing operating conditions at 35 key study intersections within the project vicinity, estimates the trip-generation potential of the proposed project, superimposes the project-related traffic volumes on the circulation system as it currently exists, and forecasts future operating conditions with and without the proposed project. Where necessary, intersection improvements (mitigation measures) are identified.

4.12.1 Existing Conditions

Existing Street System

The principal local network of streets serving the project site are Harbor Boulevard, Fairview Road, Adams Avenue, and Merrimac Way. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

Harbor Boulevard is an eight-lane, divided roadway between Gisler Avenue and Baker Street, a seven-lane, divided roadway between Baker Street and Adams Avenue, and a six-lane, divided roadway south of Adams Avenue, oriented in the north–south direction. The posted speed limit on Harbor Boulevard is 40 miles per hour (mph). On-street parking is generally not permitted along this roadway in the vicinity of the project. Traffic signals control the study intersections of Harbor Boulevard at South Coast Drive, the Interstate 405 (I-405) northbound (NB) ramps, the I-405 southbound (SB) ramps, Gisler Avenue, Baker Street, Adams Avenue, Merrimac Way, Fair Drive, and Victoria Street.

Fairview Road is generally a six-lane, divided roadway, oriented in the north–south direction. Fairview Road borders the project site to the east and currently provides access to the site via Monitor Way, Pirate Way, and Arlington Drive. The posted speed limit on Fairview Road is 40 mph. On-street parking is generally not permitted along this roadway in the vicinity of the project. Traffic signals control the study intersections of Fairview Road at South Coast Drive, the I-405 NB ramps, the I-405 SB ramps, Baker Street, Adams Avenue/El Camino Drive, Monitor Way, Pirate Way/Mustang Way, Arlington Drive, Merrimac Way, and Fair Drive.

Adams Avenue is a six-lane, divided roadway between Placentia Avenue/Mesa Verde Drive and Pinecreek Drive/S Street and a five-lane, divided roadway between Pinecreek Drive/S Street and Fairview Road, oriented in the east–west direction. Adams Avenue borders the project site to the north and currently provides access to the site via S Street. Access to the recycling center is also provided via one inbound-only driveway and one outbound-only driveway along Adams Avenue. The posted speed limit on Adams Avenue is 40 mph. On-street parking is generally not permitted along this roadway between Placentia Avenue/Mesa Verde Drive and Pinecreek Drive/S Street. Between Pinecreek Drive/S Street and Fairview Road, on-street parking is permitted on the north side of the street and not permitted on the south side of the street. Traffic signals control the study intersections of Adams Avenue at Placentia Avenue/Mesa Verde Drive, Harbor Boulevard, Pinecreek Drive/S Street, and Fairview Road.

Merrimac Way is generally a four-lane, divided roadway, oriented in the east–west direction. Merrimac Way borders the project site to the south and currently provides access to the site via eight unsignalized driveways. The posted speed limit on Merrimac Way is 35 mph. On-street parking is generally not permitted along this roadway in the vicinity of the project. Traffic signals control the study intersections of Merrimac Way at Harbor Boulevard and Fairview Road.

Existing Traffic Volumes

A total of 35 key study intersections (including one proposed project driveway along Adams Avenue in the vicinity of the proposed student housing component) have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential project-related traffic will pass through each of these intersections, and their analysis will reveal the expected relative impacts of the project. Existing AM peak hour and PM peak hour traffic volumes for the key study intersections evaluated in this report were obtained from manual turning movement counts conducted by Transportation Studies Inc. in October 2013, November 2013, January 2015, and February 2015. Since the campus driveways/access points are included in the list of intersections where traffic data were collected, the traffic data at these locations were utilized to establish the existing daily, AM Peak hour, and PM peak hour trip generation for the campus. The existing trip generation represents an existing baseline enrollment of 21,410 students. Traffic counts/observations were also conducted at the existing recycling center in February 2014 to help establish the recycling center's existing daily, AM peak hour, and PM peak hour trip generation.

The 25 locations listed below provide regional and local access to the study area and define the extent of the boundaries for this traffic impact investigation. These intersections are shown on Figure 4.12-1.

Key Study Intersections

1. Harbor Boulevard at Gisler Avenue
2. Harbor Boulevard at Baker Street

3. Harbor Boulevard at Adams Avenue
4. Harbor Boulevard at Merrimac Way
5. Harbor Boulevard at Fair Drive
6. Pinecreek Drive/S Street at Adams Avenue
7. Fairview Road at I-405 NB Ramps
8. Fairview Road at I-405 SB Ramps
9. Fairview Road at Baker Street
10. Fairview Rd at Adams Avenue/El Camino Drive
11. Fairview Road at Monitor Way
12. Fairview Road at Pirate Way/Mustang Way
13. Fairview Road at Arlington Drive
14. Fairview Road at Merrimac Way
15. Fairview Road at Fair Drive
16. Lot C Driveway at Merrimac Way
17. Lot D Driveway at Merrimac Way
18. Lot D Driveway (Right-In/Out Only) at Merrimac Way
19. Lot D Driveway (Right-In/Out Only) at Merrimac Way
20. Lot E Driveway at Merrimac Way
21. Lot E Driveway (Right-In/Out Only) at Merrimac Way
22. Lot E Driveway/Church Driveway at Merrimac Way
23. Lot E Driveway (Right-In/Out Only) at Merrimac Way
24. Recycling Center Driveway No. 1 at Adams Avenue
25. Recycling Center Driveway No. 2 at Adams Avenue
26. Placentia Avenue/Mesa Verde Drive at Adams Avenue
27. Harbor Boulevard at South Coast Drive
28. Harbor Boulevard at I-405 NB Ramps
29. Harbor Boulevard at I-405 SB Ramps
30. Harbor Boulevard at Victoria Street
31. Fairview Road at South Coast Drive

32. Bear Street at Baker Street
33. Newport Boulevard at SR-55 SB Ramps/Fair Drive
34. Newport Boulevard at SR-55 NB Ramps at Fair Drive/Del Mar Avenue
35. Project Driveway (near student housing component) at Adams Avenue

Figures 4.12-2 and 4.12-3 illustrate the existing AM and PM peak hour traffic volumes at the 35 key study intersections. Appendix A in the Traffic Impact Analysis Report contains the detailed peak hour count sheets for the key intersections and includes a summary of the existing daily, AM peak hour, and PM peak hour trip generation for the campus.

Existing Intersection Conditions

Existing AM and PM peak hour operating conditions for the 35 key study intersections were evaluated using the Intersection Capacity Utilization (ICU) methodology for signalized intersections and the methodology outlined in Chapter 17 of the *Highway Capacity Manual 2000* (HCM 2000) for unsignalized intersections.

In conformance with City of Costa Mesa and Orange County Congestion Management Program requirements, existing AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the ICU method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Per City of Costa Mesa requirements, the ICU calculations use a lane capacity of 1,600 vehicles per hour for left-turn lanes, through lanes, and right-turn lanes. The City of Costa Mesa does make adjustments for clearance intervals since the assumed lane capacity reflects the effect of lost time.

The ICU value translates to a level of service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of LOS have been defined along with the corresponding ICU value range and are shown in Table 4.12-1.

Table 4.12-1
Level of Service Criteria for Signalized Intersections

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
A	≤ 0.600	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.601 – 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 – 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 – 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 – 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

The HCM 2000 unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. This methodology estimates the average control delay for each of the subject movements and determines the LOS for each movement. For all-way stop controlled intersections, the overall average control delay measured in seconds per vehicle, and LOS is then calculated for the entire intersection. For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle, and determines the LOS for that approach. The HCM control delay value translates to an LOS estimate, which is a relative measure of the intersection performance. The six qualitative categories of LOS have been defined along with the corresponding HCM control delay value range, as shown in Table 4.12-2.

Table 4.12-2
Level of Service Criteria For Unsignalized Intersections[1]

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays

[1] Source: Highway Capacity Manual 2000, Chapter 17 (Unsignalized Intersections), cited in LLG 2015.

Table 4.12-2
Level of Service Criteria For Unsignalized Intersections[1]

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

According to City of Costa Mesa criteria, LOS D (ICU = 0.801 – 0.900) is the minimum acceptable condition that should be maintained during the morning and evening peak commute hours.

Table 4.12-3 summarizes the existing peak hour service level calculations for the 35 key study intersections based on existing traffic volumes and current street geometrics. Table 4.12-3 indicates that all 35 key study intersections currently operate at an acceptable service level during the AM and PM peak hours.

Table 4.12-3
Existing Peak Hour Intersection Capacity Analysis

Key Intersection		Time Period	Control Type	ICU/HCM	LOS
1.	Harbor Boulevard at Gisler Avenue	AM PM	8∅ Traffic Signal	0.572 0.717	A C
2.	Harbor Boulevard at Baker Street	AM PM	8∅ Traffic Signal	0.473 0.657	A B
3.	Harbor Boulevard at Adams Avenue (before 2015)	AM PM	8∅ Traffic Signal	0.665 0.856	B D
	-With recently installed improvements[a]	AM PM	8∅ Traffic Signal	0.665 0.746	B C
4.	Harbor Boulevard at Merrimac Way	AM PM	5∅ Traffic Signal	0.368 0.623	A B
5.	Harbor Boulevard at Fair Drive	AM PM	6∅ Traffic Signal	0.356 0.546	A A
6.	Pinecreek Drive/S Street at Adams Avenue	AM PM	6∅ Traffic Signal	0.369 0.623	A B
7.	Fairview Road at I-405 NB Ramps	AM PM	3∅ Traffic Signal	0.658 0.688	B B
8.	Fairview Road at I-405 SB Ramps	AM PM	3∅ Traffic Signal	0.611 0.545	B A
9.	Fairview Road at Baker Street	AM PM	8∅ Traffic Signal	0.588 0.586	A A

Table 4.12-3
Existing Peak Hour Intersection Capacity Analysis

Key Intersection		Time Period	Control Type	ICU/HCM	LOS
10.	Fairview Road at Adams Avenue/El Camino Drive	AM PM	6∅ Traffic Signal	0.670 0.654	B B
11.	Fairview Road at Monitor Way	AM PM	5∅ Traffic Signal	0.342 0.460	A A
12.	Fairview Road at Pirate Way/Mustang Way	AM PM	5∅ Traffic Signal	0.399 0.401	A A
13.	Fairview Road at Arlington Drive	AM PM	5∅ Traffic Signal	0.287 0.422	A A
14.	Fairview Road at Merrimac Way	AM PM	5∅ Traffic Signal	0.236 0.295	A A
15.	Fairview Road at Fair Drive	AM PM	8∅ Traffic Signal	0.401 0.519	A A
16.	Lot C Driveway at Merrimac Way	AM PM	One-Way Stop	10.4 sec/veh 12.6 sec/veh	B B
17.	Lot D Driveway at Merrimac Way	AM PM	One-Way Stop	12.1 sec/veh 13.3 sec/veh	B B
18.	Lot D Driveway (Right-In/Out Only) at Merrimac Way	AM PM	One-Way Stop	9.5 sec/veh 10.0 sec/veh	A A
19.	Lot D Driveway (Right-In/Out Only) at Merrimac Way	AM PM	One-Way Stop	9.5 sec/veh 10.1 sec/veh	A B
20.	Lot E Driveway at Merrimac Way	AM PM	One-Way Stop	11.2 sec/veh 13.2 sec/veh	B B
21.	Lot E Driveway (Right-In/Out Only) at Merrimac Way	AM PM	One-Way Stop	8.9 sec/veh 9.8 sec/veh	A A
22.	Lot E Driveway/Church Driveway at Merrimac Way	AM PM	Two-Way Stop	8.7 sec/veh 13.9 sec/veh	A B
23.	Lot E Driveway (Right-In/Out Only) at Merrimac Way	AM PM	One-Way Stop	8.7 sec/veh 9.7 sec/veh	A A
24.	Recycling Center Driveway No. 1 at Adams Avenue	AM PM	Uncontrolled	0.0 sec/veh 0.0 sec/veh	A A
25.	Recycling Center Driveway No. 2 at Adams Avenue	AM PM	One-Way Stop	12.0 sec/veh 10.6 sec/veh	B B
26.	Mesa Verde Drive/Placentia Avenue at Adams Avenue	AM PM	8∅ Traffic Signal	0.739 0.743	C C
27.	Harbor Boulevard at South Coast Drive	AM PM	6∅ Traffic Signal	0.465 0.669	A B
28.	Harbor Boulevard at I-405 NB Ramps	AM PM	2∅ Traffic Signal	0.460 0.597	A A
29.	Harbor Boulevard at I-405 SB Ramps	AM PM	2∅ Traffic Signal	0.427 0.606	A B
30.	Harbor Boulevard at Victoria Street	AM PM	8∅ Traffic Signal	0.679 0.814	B D

Table 4.12-3
Existing Peak Hour Intersection Capacity Analysis

Key Intersection		Time Period	Control Type	ICU/HCM	LOS
31.	Fairview Road at South Coast Drive	AM PM	8∅ Traffic Signal	0.702 0.683	C B
32.	Bear Street at Baker Street	AM PM	8∅ Traffic Signal	0.563 0.688	A B
33.	Newport Boulevard/SR-55 SB Ramps at Fair Drive	AM PM	3∅ Traffic Signal	0.351 0.481	A A
34.	Newport Boulevard/SR-55 SB Ramps at Fair Drive/Del Mar Avenue	AM PM	3∅ Traffic Signal	0.813 0.469	D A
35.	Project Driveway (near proposed student housing component) at Adams Avenue	AM PM	One-Way Stop[b]	--- ---	--- ---

Notes:
Bold ICU/LOS or **HCM/LOS** values indicate adverse service levels based on City of Costa Mesa LOS standards
sec/veh = seconds per vehicle
∅ = phase
a=The recently installed improvements identified as part of the Harbor Boulevard/Adams Avenue Intersection Widening Project consist of a second southbound right-turn lane and a third eastbound left-turn lane.
b= Future intersection

4.12.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal regulations for traffic and circulation that would be applicable to the proposed project or the project area.

State

California Department of Transportation (Caltrans)

In conformance with the current Caltrans *Guide for the Preparation of Traffic Impact Studies*, existing and projected AM and PM peak hour operating conditions at the 2 state-controlled study intersections within the study area have been evaluated using HCM 2000 (for signalized intersections) operations method of analysis. These state-controlled locations include the following 2 of the 25 study intersections:

7. Fairview Road at I-405 NB Ramps
8. Fairview Road at I-405 SB Ramps.

Caltrans "endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D' on State highway facilities" (Caltrans 2002, cited in LLG 2015); it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target LOS standard and will be used to assess the project impacts at the state-controlled study intersections.

Local

City of Costa Mesa 2000 General Plan

The following policies are included in the city's transportation and circulation element of the General Plan (City of Costa Mesa 2002) and would be applicable to the proposed project:

CIR-1A.5 Investigate all available operational measures, including the use of one-way streets, to improve traffic circulation and minimize delay and congestion on arterials.

CIR-1A.7 Implement citywide and/or areawide transportation system improvement programs on new development and fee programs for new development.

CIR-1A.8 Encourage the integration of compatible land uses and housing into major development projects to reduce vehicle use.

CIR-1A.9 Encourage permitted General Plan land uses which generate high traffic volumes to be located near major transportation corridors and public transit facilities to minimize vehicle use, congestion, and delay.

CIR-1A.10 Allow the application of transportation management rideshare programs, integration of complementary land uses, and other methods to reduce project related average and daily peak hour vehicle trips in order to achieve consistency with allocated trip budgets.

CIR-1A.13 While the Gisler Road segment, west of Harbor, will exceed its theoretical maximum capacity, the City shall work to ensure that the future volume to capacity ratios do not exceed those identified in Table CIR-3 of the General Plan.

CIR-1A.15 Prioritize intersection improvements which improve through traffic flow on major, primary, and secondary arterials, and reduce impacts on local neighborhood streets with emphasis on pedestrian safety.

CIR-1A.16 Maintain balance between land use and circulation systems by phasing new development to levels that can be accommodated by roadways existing or planned to exist at the time of completion of each phase of the project.

CIR-1A.17 Work closely with the State of California and other government agencies to control traffic-related impacts of uses on State- or other agency-owned land (i.e., Orange County Fairgrounds, Orange Coast College, etc.).

CIR-2A.2 Coordinate with the Orange County Transportation Authority and with adjacent jurisdictions to improve signal timing and coordination among major arterials.

CIR-2A.3 Continue to work with Caltrans to synchronize and coordinate traffic signals on arterials at intersections controlled by Caltrans.

CIR-2D.2 Construction of circulation improvements for phased development projects may be constructed commensurate with the project construction based upon the findings of a traffic study approved by the City of Costa Mesa.

CIR-2D.5 Require discussion of transportation system management (TSM) and transportation demand management (TDM) measures in all EIRs prepared for major projects.

GM-1A.1 Recognizing the constraints of existing physical development conditions, the city shall strive to achieve a balance of land uses whereby residential, commercial, industrial and public land uses are proportionally balanced.

GM-1A.4 Every new development project shall pay its share of costs associated with the mitigation of project generated impacts.

4.12.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to traffic and circulation are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to traffic and circulation would occur if the project would:

1 ***Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance or the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.***

2 ***Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.***

3 ***Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.***

4 ***Substantially increase hazards due to a design feature (e.g., sharp curves, or dangerous intersections) or incompatible uses (e.g., farm equipment).***

5 ***Result in inadequate emergency access.***

6 ***Conflict with adopted policies, plans, or programs regarding public transit, bicycles, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.***

Threshold 3 was eliminated from further analysis in the Initial Study because the proposed project site is not located within the vicinity of an airport or private airstrip. The nearest airport is John Wayne International Airport, located 2 miles east of the proposed project site. No private airstrips exist within 2 miles of the proposed project site; thus, air traffic patterns would not be affected by the proposed project.

4.12.4 Impacts Analysis

Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance or the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

In order to estimate the traffic impact characteristics of the proposed project, a multistep process has been used. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step is traffic distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the proposed project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the project's impacts identified.

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are typically found in the 9th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) (2012, cited in LLG 2015).

Table 4.12-4 summarizes the trip generation rates used in forecasting the vehicular trips generated by the four components of the proposed project (i.e., student growth, student housing, mixed use development, and recycling center expansion). As shown, the trip generation potential of the student growth project component was estimated using the empirical rates developed from the existing driveway counts for an existing baseline enrollment of 21,410 students. The trip generation potential of the mixed use development project component was estimated using ITE Land Use 710: General Office Building trip rates and ITE Land Use 820: Shopping Center trip equations.

For the student housing project component, ITE Land Use 220: Apartment trip rates were considered; however, they were deemed not applicable to the proposed student housing project component since use of apartment trip rates would significantly overstate the project trips. The proposed student housing project would function similar to that of a college dormitory or an on-campus apartment and would only be available to students attending OCC. Residents of the student housing project component would be located on campus, and therefore trips associated with any school activities would likely be walk-based trips. The only trips that need to be accounted for with this project component would be non-school related trips (e.g., student work trips). To develop the non-school-related trips associated with the student housing project component, student housing empirical rates developed as part of the *Chapman University Residence Center Project Traffic Impact Study*, prepared by LLG Irvine (2007, cited in LLG 2015) were utilized. The *Chapman University Residence Center* rates are deemed more appropriate for use as they fit the description of the proposed student housing project and will correctly forecast the non-school-related trips.

The trip generation potential of the recycling center expansion project component will be based on the existing daily and peak hour trip generation data collected at the existing facility, with a multiplier applied to the existing data to account for the trips associated with the expanded facility. Based on information provided by campus staff, at completion of the proposed recycling center expansion, it is expected that the site would collect triple the amount of waste that is currently collected at the existing facility, thus resulting in triple the amount of visitors to the expanded site. Therefore, a multiplier of 3 was used to account for the trips associated with the expanded facility.

Table 4.12-4
Project Traffic Generation Rates[1]

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	*Exit*	*Total*	*Enter*	*Exit*	*Total*
Student Growth							
OCC empirical rate (trip ends/student)[2]	1.271	0.107	0.018	0.125	0.076	0.065	0.141
Mixed Use Development							
710: General Office Building (trip ends/1,000 square feet)	11.03	1.37	0.19	1.56	0.25	1.24	1.49
820: Shopping center (trip ends/1,000 square feet)[3]	131.93	2.00	1.27	3.27	5.40	5.80	11.20
Student Housing							
Student housing empirical rate (trip ends/bed)[4]	2.38	0.04	0.03	0.07	0.06	0.09	0.15
Recycling Center Expansion							
Existing recycling center trip generation[5]	494	5	5	10	30	30	60
Proposed expansion (3 times existing trips)							

1 Unless otherwise noted, Source: ITE 2012, cited in LLG 2015.
2 The trip generation rates for the student growth project component were developed based on existing daily, AM peak hour and PM peak hour traffic counts collected at the Orange Coast College driveways in October 2013. The traffic counts revealed that on a typical weekday, the Orange Coast College campus generates 27,203 daily trips, 2,669 AM peak hour trips (2,290 inbound, 379 outbound) and 3,016 PM peak hour trips (1,626 inbound, 1,390 outbound). The aforementioned trips where then divided by the existing number of students (i.e., 21,410 students) to determine the daily, AM peak hour, and PM peak hour rates per student.
3 The trip generation rates are based on the following equations.
- Daily: LN (T) = 0.65 LN(X) + 5.83; 50% Enter and 50% Exit
- AM Peak Hour: LN (T) = 0.61 LN(X) + 2.24; 62% Enter and 38% Exit
- PM Peak Hour: LN (T) = 0.67 LN (X) + 3.31, 48% Enter and 52% Exit

4 **Source:** LLG Irvine 2007, cited in LLG 2015.
5 **Source:** Traffic counts/observations conducted at the existing recycling center in February 2014.

Existing Plus Project Traffic Conditions

The student growth component of the proposed project (i.e., net increase of 6,922 students) is forecast to generate 8,798 daily trips, with 865 trips forecast during the AM peak hour and 976 trips forecast during the PM peak hour. The student housing component of the proposed project (i.e., 818 beds) is forecast to generate 1,947 daily trips, with 58 trips forecast during the AM peak hour and 123 trips forecast during the PM peak hour.

Table 4.12-5 shows that the mixed-use development component of the proposed project (i.e., 89,000 square feet of conference/education office space and a 15,000-square-foot shopping center) is forecast to generate 2,763 daily trips, with 188 trips forecast during the AM peak hour and 284 trips forecast during the PM peak hour. The mixed-use trip generation includes adjustments for pass-by for trips that come directly from the everyday traffic stream on the adjoining streets (i.e., Fairview Road and Merrimac Way). To provide a conservative analysis and remain consistent with City of Costa Mesa requirements, 10% was used for the PM peak hour.

The recycling center expansion component of the proposed project is forecast to generate 988 net daily trips, with 20 net trips forecast during the AM peak hour and 120 net trips forecast during the PM peak hour. It should be noted that only the net project trips are evaluated because the recycling center is currently generating traffic and those existing trips are already accounted for in the existing traffic counts.

Overall, the proposed project is forecast to generate approximately 14,496 daily trips, with 1,131 trips (936 inbound, 195 outbound) produced in the AM peak hour and 1,503 trips (731 inbound, 772 outbound) produced in the PM peak hour on a typical weekday.

Table 4.12-5
Project Traffic Generation Forecast

Project Description	**Daily 2-Way**	**AM Peak Hour**			**PM Peak Hour**		
		Enter	*Exit*	*Total*	*Enter*	*Exit*	*Total*
Student Growth							
Net increase 6,922 students	8,798	741	124	865	526	450	976
Student Housing							
Student housing – 818 beds	1,947	33	25	58	49	74	123
Mixed Use Development							
89,000-square-foot conference/education office space	982	122	17	139	23	110	133
15,000-square-foot shopping center	1,979	30	19	49	81	87	168
Pass-by reduction[1]	-198	—	—	—	-8	-9	-17
Subtotal	*1,781*	*30*	*19*	*49*	*73*	*78*	*151*
Total mixed use development	**2,763**	**152**	**36**	**188**	**96**	**188**	**284**
Recycling Center Expansion							
Existing recycling center trip generation	494	5	5	10	30	30	60
With proposed expansion project (3 times existing trips)[2]	1,482	15	15	30	90	90	180
Total net recycling center expansion trips (proposed minus existing)	***988***	***10***	***10***	***20***	***60***	***60***	***120***
Total trip generation potential	**14,496**	**936**	**195**	**1,131**	**731**	**772**	**1,503**

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 (i.e., Fairview Road and Merrimac Way), which contain direct access to the generator. The *Trip Generation Handbook* (ITE 2012, cited in LLG 2015) recommends a pass-by reduction factor of 34% for the PM peak hour. The daily pass-by percentage was estimated to be 10%, consistent with City of Costa Mesa requirements.

2 At completion of the proposed recycling center expansion, it is expected that the site would collect triple the amount of waste that is currently collected at the existing facility, thus resulting in triple the amount of visitors to the expanded site.

Figures 4.12-4 and 4.12-5 present projected AM and PM peak hour traffic volumes at the 35 key study intersections with the addition of the trips generated by the proposed project to existing traffic volumes, respectively.

Table 4.12-6 indicates that traffic associated with the proposed project would not significantly impact any of the 35 key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. The 35 key study intersections currently operate and are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of project-generated traffic to existing traffic.

Table 4.12-6
Existing Plus Project Peak Hour Intersection Capacity Analysis

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact	
			ICU/HCM	*LOS*	*ICU/HCM*	*LOS*	*Increase*	*Yes/No*
1.	Harbor Boulevard at Gisler Avenue	AM PM	0.572 0.717	A C	0.595 0.737	A C	0.023 0.020	No No
2.	Harbor Boulevard at Baker Street	AM PM	0.473 0.657	A B	0.478 0.678	A B	0.005 0.021	No No
3.	Harbor Boulevard at Adams Avenue[a]	AM PM	0.665 0.746	B C	0.725 0.805	C D	0.060 0.059	No No
4.	Harbor Boulevard at Merrimac Way	AM PM	0.368 0.623	A B	0.418 0.682	A B	0.050 0.059	No No
5.	Harbor Boulevard at Fair Drive	AM PM	0.356 0.546	A A	0.366 0.555	A A	0.010 0.009	No No
6.	Pinecreek Drive/S Street at Adams Avenue	AM PM	0.369 0.623	A B	0.459 0.712	A C	0.090 0.089	No No
7.	Fairview Road at I-405 NB Ramps	AM PM	0.658 0.688	B B	0.684 0.728	B C	0.026 0.040	No No
8.	Fairview Road at I-405 SB Ramps	AM PM	0.611 0.545	B A	0.652 0.583	B A	0.041 0.038	No No
9.	Fairview Road at Baker Street	AM PM	0.588 0.586	A A	0.597 0.662	A B	0.009 0.076	No No
10.	Fairview Road at Adams Avenue/El Camino Drive	AM PM	0.670 0.654	B B	0.738 0.749	C C	0.068 0.095	No No
11.	Fairview Road at Monitor Way	AM PM	0.342 0.460	A A	0.428 0.538	A A	0.086 0.078	No No
12.	Fairview Road at Pirate Way/ Mustang Way	AM PM	0.399 0.401	A A	0.466 0.466	A A	0.067 0.065	No No
13.	Fairview Road at Arlington Drive	AM PM	0.287 0.422	A A	0.331 0.516	A A	0.044 0.094	No No
14.	Fairview Road at Merrimac Way	AM PM	0.236 0.295	A A	0.270 0.352	A A	0.034 0.057	No No

Table 4.12-6
Existing Plus Project Peak Hour Intersection Capacity Analysis

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact	
			ICU/HCM	*LOS*	*ICU/HCM*	*LOS*	*Increase*	*Yes/No*
15.	Fairview Road at Fair Drive	AM PM	0.401 0.519	A A	0.442 0.569	A A	0.041 0.050	No No
16.	Lot C Driveway at Merrimac Way	AM PM	10.4 s/v 12.6 s/v	B B	11.9 s/v 17.6 s/v	B C	1.5 s/v 5.0 s/v	No No
17.	Lot D Driveway at Merrimac Way	AM PM	12.1 s/v 13.3 s/v	B B	13.1 s/v 15.3 s/v	B C	1.0 s/v 2.0 s/v	No No
18.	Lot D Driveway (Right-In/Out Only) at Merrimac Way	AM PM	9.5 s/v 10.0 s/v	A A	9.6 s/v 10.4 s/v	A B	0.1 s/v 0.4 s/v	No No
19.	Lot D Driveway (Right-In/Out Only) at Merrimac Way	AM PM	9.5 s/v 10.1 s/v	A B	9.7 s/v 10.7 s/v	A B	0.2 s/v 0.5 s/v	No No
20.	Lot E Driveway at Merrimac Way	AM PM	11.2 s/v 13.2 s/v	B B	12.5 s/v 15.2 s/v	B C	1.3 s/v 2.0 s/v	No No
21.	Lot E Driveway (Right-In/Out Only) at Merrimac Way	AM PM	8.9 s/v 9.8 s/v	A A	9.0 s/v 10.3 s/v	A B	0.1 s/v 0.5 s/v	No No
22.	Lot E Driveway/Church Driveway at Merrimac Way	AM PM	8.7 s/v 13.9 s/v	A B	10.1 s/v 16.7 s/v	B C	1.4 s/v 2.8 s/v	No No
23.	Lot E Driveway (Right-In/Out Only) at Merrimac Way	AM PM	8.7 s/v 9.7 s/v	A A	8.8 s/v 10.1 s/v	A B	0.1 s/v 0.4 s/v	No No
24.	Recycling Center Driveway No. 1 at Adams Avenue	AM PM	0.0 s/v 0.0 s/v	A A	0.0 s/v 0.0 s/v	A A	0.0 s/v 0.0 s/v	No No
25.	Recycling Center Driveway No. 2 at Adams Avenue	AM PM	12.0 s/v 10.6 s/v	B B	12.4 s/v 11.9 s/v	B B	0.4 s/v 1.3 s/v	No No
26.	Mesa Verde Drive/Placentia Avenue at Adams Avenue	AM PM	0.739 0.743	C C	0.764 0.760	C C	0.025 0.017	No No
27.	Harbor Boulevard at South Coast Drive	AM PM	0.465 0.669	A B	0.473 0.676	A B	0.008 0.007	No No
28.	Harbor Boulevard at I-405 NB Ramps	AM PM	0.460 0.597	A A	0.469 0.604	A B	0.009 0.007	No No
29.	Harbor Boulevard at I-405 SB Ramps	AM PM	0.427 0.606	A B	0.455 0.637	A B	0.028 0.031	No No
30.	Harbor Boulevard at Victoria Street	AM PM	0.679 0.814	B D	0.680 0.822	B D	0.001 0.008	No No
31.	Fairview Road at South Coast Drive	AM PM	0.702 0.683	C B	0.705 0.694	C B	0.003 0.011	No No
32.	Bear Street at Baker Street	AM PM	0.563 0.688	A B	0.564 0.696	A B	0.001 0.008	No No
33.	Newport Boulevard/SR-55 SB Ramps at Fair Drive	AM PM	0.351 0.481	A A	0.354 0.493	A A	0.003 0.012	No No
34.	Newport Boulevard/SR-55 NB Ramps at Fair Drive/Del Mar Avenue	AM PM	0.813 0.469	D A	0.820 0.491	D A	0.007 0.022	No No

Table 4.12-6
Existing Plus Project Peak Hour Intersection Capacity Analysis

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact	
			ICU/HCM	*LOS*	*ICU/HCM*	*LOS*	*Increase*	*Yes/No*
35.	Project Driveway (near proposed student housing component) at Adams Avenue	AM PM	--- ---	--- ---	16.5 s/v 12.1 s/v	C B	--- ---	No No

Notes:
Bold ICU/LOS or **HCM/LOS** values indicate adverse service levels based on City of Costa Mesa LOS standards.
s/v = seconds per vehicle.
a= The LOS results for this key study intersection include the recently installed improvements identified as part of the Harbor Boulevard/Adams Avenue Intersection Widening Project. The improvements consist of a second southbound right-turn lane and a third eastbound left-turn lane.

Year 2024 Cumulative Traffic Conditions

Horizon year, background traffic growth estimates were calculated using an ambient traffic growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at 1% per year. This factor results in an 11% growth in existing volumes from 2013 to horizon year 2024.

Cumulative Projects

Other known development projects were researched at the City of Costa Mesa and the City of Newport Beach. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development.

There are seven cumulative projects in the City of Costa Mesa and one cumulative project in the City of Newport Beach that have either been built, but not yet fully occupied, or are being processed for approval. These eight cumulative projects have been included as part of the cumulative background setting.

Table 4.12-7 provides the location and a brief description for each of the eight cumulative projects and Figure 4.12-6 illustrates the location of the cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

Table 4.12-7
Location and Description of Cumulative Projects[2]

No.	Cumulative Project	Location/Address	Description
City of Costa Mesa Development			
1.	Apartments – 421 Bernard Street	421 Bernard Street	113 apartments
2.	Senior apartments – 1500 Mesa Verde Drive	1500 Mesa Verde Drive	224 senior apartments
3.	Live/work units – 372 Victoria Street	372 Victoria Street	30 live/work units
4.	Apartments – 125 Baker Street	125 Baker Street	240 apartments
5.	Live/work units – 2025 Placentia Avenue	2025 Placentia Avenue	36 live/work units
6.	Live/work units – 2075 Placentia Avenue	2075 Placentia Avenue	14 live/work units
7.	Condominiums – 573 Victoria Street	573 Victoria Street	37 condominiums
City of Newport Beach Development			
8.	Newport Executive Court	20372 Birch Street	64,928-square-foot medical office building

Table 4.12-8 presents the resultant trip generation for the eight cumulative projects. As shown, the eight cumulative projects are forecast to generate a combined total of 6,578 daily trips, with 418 trips (167 inbound and 251 outbound) forecast during the AM peak hour and 607 trips (289 inbound and 318 outbound) forecast during the PM peak hour. The AM and PM peak hour traffic volumes associated with the eight cumulative projects in the Year 2024 are presented in Figures 4.12-7 and 4.12-8, respectively.

Table 4.12-8
Cumulative Projects Traffic Generation Forecast[1]

Related Project Description		Daily 2-Way	AM Peak Hour			PM Peak Hour		
			Enter	*Exit*	*Total*	*Enter*	*Exit*	*Total*
1.	Apartments – 421 Bernard Street	751	12	46	58	46	24	70
2.	Senior apartments – 1500 Mesa Verde Drive	771	15	30	45	30	26	56
3.	Live/work units – 372 Victoria Street	174	2	11	13	11	5	16
4.	Apartments – 125 Baker Street[2]	1,090	-29	94	65	74	18	92
5.	Live/work units – 2025 Placentia Avenue	209	3	13	16	13	6	19
6.	Live/work units – 2075 Placentia Avenue	108	5	5	10	5	5	10
7.	Condominiums – 573 Victoria Street	215	3	13	16	13	6	19
8.	Newport Executive Court[3]	3,260	156	39	195	97	228	325
Cumulative projects trip generation potential		**6,578**	**167**	**251**	**418**	**289**	**318**	**607**

1 Unless otherwise noted, **Source:** ITE 2012, cited in LLG 2015.
2 **Source:** LLG Irvine 2013, cited in LLG 2015.
3 **Source:** Kimley-Horn and Associates, cited in LLG 2015.

2 Source: City of Costa Mesa and City of Newport Beach Planning Department staff.

Year 2024 Cumulative Plus Project Traffic Conditions

An analysis of future (Year 2024) cumulative traffic conditions indicates that traffic associated with the proposed project would not significantly impact any of the 35 key study intersections. Although the intersection of Harbor Boulevard at Victoria Street is forecast to operate at unacceptable LOS E during the PM peak hour with the addition of project traffic, the proposed project is expected to add less than 0.010 to the ICU value. The remaining 34 key study intersections are forecast to continue to operate at an acceptable level of service during the AM and PM peak hours with the addition of project-generated traffic to existing traffic, ambient growth traffic, and cumulative projects traffic. Table 4.12-9 summarizes these results. Figures 4.12-9 and 4.12-10 present the Year 2024 AM and PM peak hour cumulative traffic volumes at the 35 key study intersections, respectively. Figures 4.12-11 and 4.12-12 illustrate the Year 2024 forecast AM and PM peak hour traffic volumes with the inclusion of the trips generated by the proposed project, respectively.

Table 4.12-9
Year 2024 Peak Hour Intersection Capacity Analysis

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Year 2024 Cumulative Traffic Conditions		(3) Year 2024 Cumulative Plus Project Traffic Conditions		(4) Significant Impact		(5) With Improvements	
			ICU/HCM	*LOS*	*ICU/HCM*	*LOS*	*ICU/HCM*	*LOS*	*Increase*	*Yes/No*	*ICU/HCM*	*LOS*
1.	Harbor Boulevard at Gisler Avenue	AM PM	0.572 0.717	A C	0.637 0.804	B D	0.660 0.824	B D	0.023 0.020	No No	— —	— —
2.	Harbor Boulevard at Baker Street	AM PM	0.473 0.657	A B	0.533 0.738	A C	0.539 0.758	A C	0.006 0.020	No No	— —	— —
3.	Harbor Boulevard at Adams Avenue[a]	AM PM	0.665 0.746	B C	0.749 0.836	C D	0.809 0.895	D D	0.060 0.059	No No	— —	— —
4.	Harbor Boulevard at Merrimac Way	AM PM	0.368 0.623	A B	0.418 0.698	A B	0.468 0.757	A C	0.050 0.059	No No	— —	— —
5.	Harbor Boulevard at Fair Drive	AM PM	0.356 0.546	A A	0.404 0.612	A B	0.414 0.620	A B	0.010 0.008	No No	— —	— —
6.	Pinecreek Drive/S Street at Adams Avenue	AM PM	0.369 0.623	A B	0.405 0.681	A B	0.494 0.770	A C	0.089 0.089	No No	— —	— —
7.	Fairview Road at I-405 NB Ramps	AM PM	0.658 0.688	B B	0.730 0.763	C C	0.751 0.803	C D	0.021 0.040	No No	— —	— —
8.	Fairview Road at I-405 SB Ramps	AM PM	0.611 0.545	B A	0.678 0.607	B B	0.720 0.643	C B	0.042 0.036	No No	— —	— —
9.	Fairview Road at Baker Street	AM PM	0.588 0.586	A A	0.658 0.657	B B	0.667 0.732	B C	0.009 0.075	No No	— —	— —
10.	Fairview Road at Adams Avenue/El Camino Drive	AM PM	0.670 0.654	B B	0.744 0.727	C C	0.812 0.822	D D	0.068 0.095	No No	— —	— —
11.	Fairview Road at Monitor Way	AM PM	0.342 0.460	A A	0.374 0.500	A A	0.460 0.578	A A	0.086 0.078	No No	— —	— —
12.	Fairview Road at Pirate Way/Mustang Way	AM PM	0.399 0.401	A A	0.439 0.433	A A	0.485 0.492	A A	0.046 0.059	No No	— —	— —
13.	Fairview Road at Arlington Drive	AM PM	0.287 0.422	A A	0.319 0.465	A A	0.363 0.559	A B	0.044 0.094	No No	— —	— —
14.	Fairview Road at Merrimac Way	AM PM	0.236 0.295	A A	0.264 0.329	A A	0.296 0.384	A A	0.032 0.055	No No	— —	— —

Table 4.12-9
Year 2024 Peak Hour Intersection Capacity Analysis

	Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Year 2024 Cumulative Traffic Conditions		(3) Year 2024 Cumulative Plus Project Traffic Conditions		(4) Significant Impact		(5) With Improvements	
			ICU/HCM	*LOS*	*ICU/HCM*	*LOS*	*ICU/HCM*	*LOS*	*Increase*	*Yes/No*	*ICU/HCM*	*LOS*
15.	Fairview Road at Fair Drive	AM PM	0.401 0.519	A A	0.446 0.577	A A	0.487 0.627	A B	0.041 0.050	No No	— —	— —
16.	Lot C Driveway at Merrimac Way	AM PM	10.4 s/v 12.6 s/v	B B	10.7 s/v 13.3 s/v	B B	12.4 s/v 19.26 s/v	B C	1.7 s/v 5.9 s/v	No No	— —	— —
17.	Lot D Driveway at Merrimac Way	AM PM	12.1 s/v 13.3 s/v	B B	12.6 s/v 14.1 s/v	B B	13.6 s/v 16.3 s/v	B C	1.0 s/v 2.2 s/v	No No	— —	— —
18.	Lot D Driveway (Right-In/Out Only) at Merrimac Way	AM PM	9.5 s/v 10.0 s/v	A A	9.6 s/v 10.2 s/v	A B	9.7 s/v 10.6 s/v	A B	0.1 s/v 0.4 s/v	No No	— —	— —
19.	Lot D Driveway (Right-In/Out Only) at Merrimac Way	AM PM	9.5 s/v 10.1 s/v	A B	9.6 s/v 10.3 s/v	A B	9.7 s/v 10.8 s/v	A B	0.1 s/v 0.5 s/v	No No	— —	— —
20.	Lot E Driveway at Merrimac Way	AM PM	11.2 s/v 13.2 s/v	B B	11.5 s/v 14.0 s/v	B B	12.9 s/v 16.3 s/v	B C	1.4 s/v 2.3 s/v	No No	— —	— —
21.	Lot E Driveway (Right-In/Out Only) at Merrimac Way	AM PM	8.9 s/v 9.8 s/v	A A	8.9 s/v 10.0 s/v	A A	9.1 s/v 10.4 s/v	A B	0.2 s/v 0.4 s/v	No No	— —	— —
22.	Lot E Driveway/Church Driveway at Merrimac Way	AM PM	8.7 s/v 13.9 s/v	A B	8.7 s/v 14.5 s/v	A B	10.2 s/v 17.5 s/v	B C	1.5 s/v 3.0 s/v	No No	— —	— —
23.	Lot E Driveway (Right-In/Out Only) at Merrimac Way	AM PM	8.7 s/v 9.7 s/v	A A	8.7 s/v 9.8 s/v	A A	8.8 s/v 10.3 s/v	A B	0.1 s/v 0.5 s/v	No No	— —	— —
24.	Recycling Center Driveway No. 1 at Adams Avenue	AM PM	0.0 s/v 0.0 s/v	A A	0.0 s/v 0.0 s/v	A A	0.0 s/v 0.0 s/v	A A	0.0 s/v 0.0 s/v	No No	— —	— —
25.	Recycling Center Driveway No. 2 at Adams Avenue	AM PM	12.0 s/v 10.6 s/v	B B	12.6 s/v 10.9 s/v	B B	13.0 s/v 12.3 s/v	B B	0.4 s/v 1.4 s/v	No No	— —	— —
26.	Mesa Verde Drive/Placentia Avenue at Adams Avenue	AM PM	0.739 0.743	C C	0.807 0.811	D D	0.832 0.828	D D	0.025 0.017	No No	— —	— —
27.	Harbor Boulevard at South Coast Drive	AM PM	0.465 0.669	A B	0.507 0.732	A C	0.515 0.738	A C	0.008 0.006	No No	— —	— —
28.	Harbor Boulevard at I-405 NB Ramps	AM PM	0.460 0.597	A A	0.502 0.654	A B	0.511 0.661	A B	0.009 0.007	No No	— —	— —

Table 4.12-9
Year 2024 Peak Hour Intersection Capacity Analysis

	Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Year 2024 Cumulative Traffic Conditions		(3) Year 2024 Cumulative Plus Project Traffic Conditions		(4) Significant Impact		(5) With Improvements	
			ICU/HCM	*LOS*	*ICU/HCM*	*LOS*	*ICU/HCM*	*LOS*	*Increase*	*Yes/No*	*ICU/HCM*	*LOS*
29.	Harbor Boulevard at I-405 SB Ramps	AM PM	0.427 0.606	A B	0.468 0.672	A B	0.497 0.704	A C	0.029 0.032	No No	— —	— —
30.	Harbor Boulevard at Victoria Street	AM PM	0.679 0.814	B D	0.745 0.898	C D	0.746 **0.907**	C **E**	0.001 0.009	No No	— —	— —
31.	Fairview Road at South Coast Drive	AM PM	0.702 0.683	C B	0.767 0.746	C C	0.770 0.758	C C	0.003 0.012	No No	— —	— —
32.	Bear Street at Baker Street	AM PM	0.563 0.688	A B	0.617 0.755	B C	0.618 0.763	B C	0.001 0.008	No No	— —	— —
33.	Newport Boulevard/SR-55 SB Ramps at Fair Drive	AM PM	0.351 0.481	A A	0.382 0.524	A A	0.385 0.536	A A	0.003 0.012	No No	— —	— —
34.	Newport Boulevard/SR-55 NB Ramps at Fair Drive/Del Mar Avenue	AM PM	0.813 0.469	D A	0.886 0.512	D A	0.894 0.533	D A	0.008 0.021	No No	— —	— —
35.	Project Driveway (near proposed student housing component) at Adams Avenue	AM PM	--- ---	--- ---	--- ---	--- ---	18.1 s/v 12.7 s/v	C B	--- ---	No No	— —	— —

Notes:
Bold I15.CU/LOS or **HCM/LOS** values indicate adverse service levels based on the City of Costa Mesa LOS standards
s/v = seconds per vehicle[a] = The LOS results for this key study intersection include the recently installed improvements identified as part of the Harbor Boulevard/Adams Avenue Intersection Widening Project. The improvements consist of a second southbound right-turn lane and a third eastbound left-turn lane.

The results of the intersection capacity analysis presented in Table 4.12-9 shows that the proposed project will not impact any of the 35 key study intersections under the "Year 2024 Plus Project" traffic scenario. Although the intersection of Harbor Boulevard at Victoria Street is forecast to operate at unacceptable LOS E during the PM peak hour with the addition of project traffic, the proposed project is expected to add less than 0.010 to the ICU value. The remaining 34 key study intersections are forecast to continue to operate at an acceptable level of service during the AM and PM peak hours with the addition of project-generated traffic to existing traffic, ambient growth traffic, and cumulative projects traffic.

Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

An analysis of future (Year 2024) cumulative traffic conditions indicates that the addition of ambient traffic growth and cumulative projects traffic would not conflict with an applicable congestion management program or adversely impact any of the six state-controlled study intersections. These state-controlled locations include 6 of the 35 study intersections. The six state-controlled study intersections are forecast to operate at acceptable LOS D or better during the AM and PM peak hours with the addition of ambient traffic growth and cumulative projects traffic. Table 4.12-10 shows existing plus project peak hour intersection capacity and Table 4.12-11 shows Year 2024 peak hour intersection capacity.

Table 4.12-10
Existing Plus Project Peak Hour Intersection Capacity Analysis – Caltrans

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact
			HCM	*LOS*	*HCM*	*LOS*	*Yes/No*
1.	Fairview Road at I-405 NB Ramps	AM	26.7 s/v	C	27.6 s/v	C	No
		PM	28.7 s/v	C	31.2 s/v	C	No
2.	Fairview Road at I-405 SB Ramps	AM	20.9 s/v	C	21.8 s/v	C	No
		PM	22.6 s/v	C	23.4 s/v	C	No
3.	Harbor Boulevard at I-405 NB Ramps	AM	19.6 s/v	B	19.5 s/v	B	No
		PM	21.3 s/v	C	21.4 s/v	C	No
4.	Harbor Boulevard at I-405 SB Ramps	AM	13.8 s/v	B	15.2 s/v	B	No
		PM	17.4 s/v	B	18.6 s/v	B	No
5.	Newport Boulevard/SR-55 SB Ramps at Fair Drive	AM	21.4 s/v	C	21.3 s/v	C	No
		PM	19.9 s/v	B	20.4 s/v	C	No

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact
			HCM	LOS	HCM	LOS	Yes/No
6.	Newport Boulevard/SR-55 NB Ramps at Fair Drive/Del Mar Avenue	AM PM	37.6 s/v 24.0 s/v	D C	38.6 s/v 24.3 s/v	D C	No No

Notes:
s/v = seconds per vehicle.

Table 4.12-11
Year 2024 Peak Hour Intersection Capacity Analysis – Caltrans

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Year 2024 Cumulative Traffic Conditions		(3) Year 2024 Cumulative Plus Project Traffic Conditions		(4) Significant Impact
			HCM	LOS	HCM	LOS	HCM	LOS	Yes/No
1.	Fairview Road at I-405 NB Ramps	AM	26.7 s/v	C	30.4 s/v	C	31.6 s/v	C	No
		PM	28.7 s/v	C	34.1 s/v	C	38.4 s/v	D	No
2.	Fairview Road at I-405 SB Ramps	AM	20.9 s/v	C	22.5 s/v	C	24.1 s/v	C	No
		PM	22.6 s/v	C	23.6 s/v	C	24.7 s/v	C	No
3.	Harbor Boulevard at I-405 NB Ramps	AM PM	19.6 s/v 21.3 s/v	B C	20.2 s/v 22.4 s/v	C C	20.1 s/v 22.6 s/v	C C	No No
4.	Harbor Boulevard at I-405 SB Ramps	AM PM	13.8 s/v 17.4 s/v	B B	14.4 s/v 18.8 s/v	B B	15.7 s/v 20.2 s/v	B C	No No
5.	Newport Boulevard/SR-55 SB Ramps at Fair Drive	AM PM	21.4 s/v 19.9 s/v	C B	21.7 s/v 20.5 s/v	C C	21.6 s/v 21.0 s/v	C C	No No
6.	Newport Boulevard/SR-55 NB Ramps at Fair Drive/Del Mar Avenue	AM PM	37.6 s/v 24.0 s/v	D C	51.8 s/v 24.6 s/v	D C	53.6 s/v 25.0 s/v	D C	No No

Notes:
s/v = seconds per vehicle.

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

Vehicular access to the campus would continue to be provided from Adams Avenue, Fairview Road, and Merrimac Way. The vehicular entries from Monitor Way, Pirate Way, and Arlington Drive would be enhanced with the addition of formal gateways and marked pedestrian drop-off points. The primary entry into Lot E off of Merrimac Way would also be enhanced. Therefore, the proposed project would not increase hazards due to a design feature, but it would enhance vehicular entryways to the campus with signage, designation of formal gateways, and marked drop-off points. These proposed modifications would reduce any existing hazards and would increase wayfinding to the campus by making campus entries more visible. The proposed project would have no adverse impact on safety based on design features, nor would it increase hazards due to an incompatible use.

Would the project result in inadequate emergency access?

As stated previously, vehicular access to the campus would continue to be provided from Adams Avenue, Fairview Road, and Merrimac Way. The vehicular entries from Monitor Way, Pirate Way, and Arlington Drive would be enhanced with the addition of formal gateways and marked pedestrian drop-off points. The primary entry into Lot E off of Merrimac Way would also be enhanced. These enhancements could assist in visibility of campus entry points for emergency vehicles. The proposed project would have no adverse impact to emergency access to the campus.

Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycles, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycles, or pedestrians. OCC is currently served by the following Orange County Transportation Authority (OCTA) bus lines: 47/47A, 55, 173, and 178 (OCTA 2014a). OCTA offers a college pass (a reduced fare) for students attending OCC (OCTA 2014b). Any construction that would require the temporary closure of a bus stop would require coordination with OCTA to move the bus stop and continue bus service. The proposed project would not interrupt bus service to the campus.

With the addition of student housing to the campus, it is likely that more students would walk to their classrooms from the on-campus housing. The campus is currently designed with pedestrian walkways and access points that separate pedestrians from on-campus vehicular routes, and these routes are proposed for enhancement as part of the Master Plan (see Figure 3-5 in Chapter 3, Project Description). Furthermore, the campus has bike racks to accommodate bicyclists and these facilities would not be impacted by the proposed project. Therefore, the proposed project would have no adverse impact on alternative modes of transportation.

4.12.5 Mitigation Measures

None are required.

4.12.6 Level of Significance After Mitigation

Less than significant.

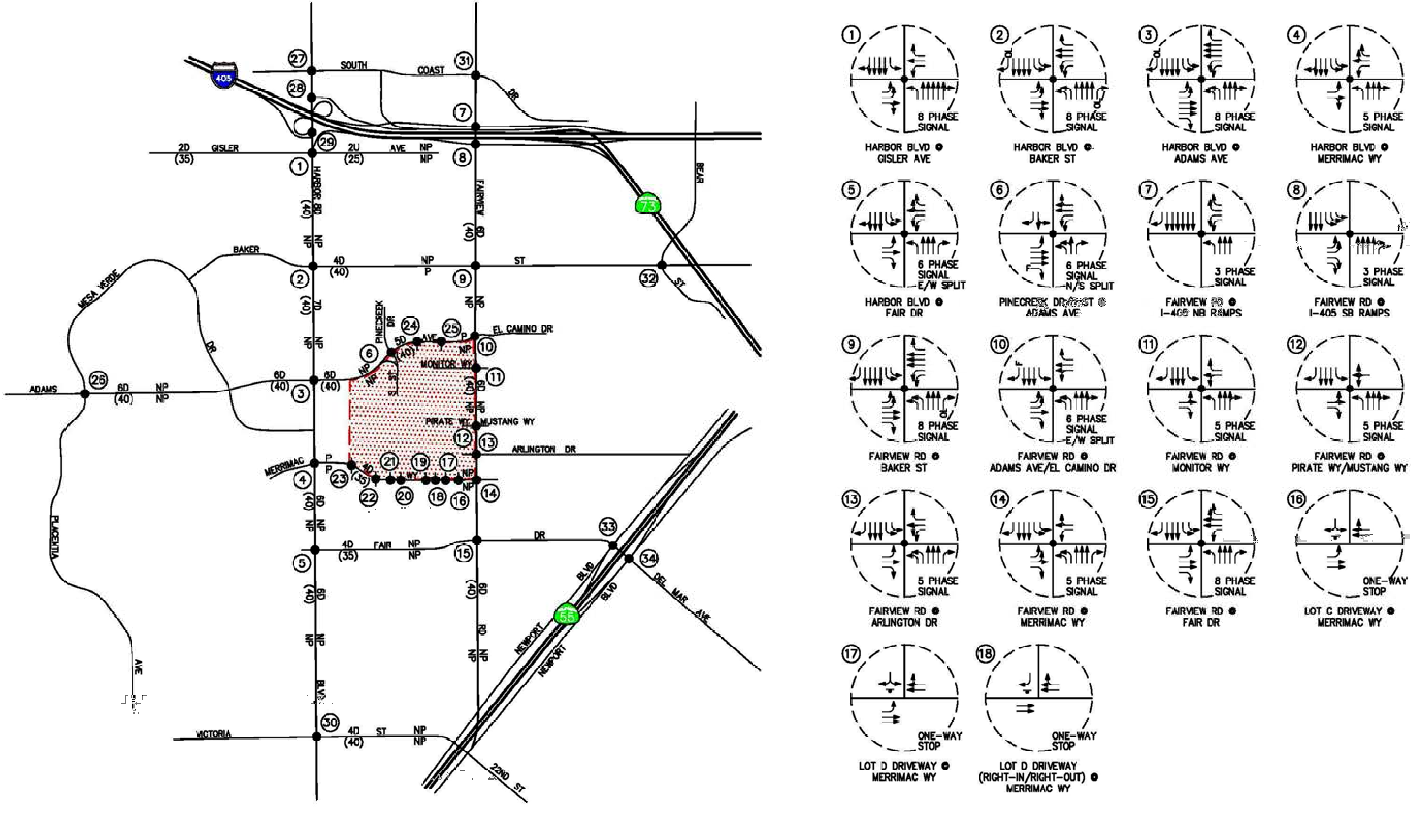
4.12.7 References

City of Costa Mesa. 2002. *City of Costa Mesa 2000 General Plan*. Adopted January 22, 2002.

LLG (Linscott, Law & Greenspan). 2015. *Traffic Impact Analysis Report for Orange Coast College Vision 2020 Facilities Master Plan*. June 30, 2015.

OCTA (Orange County Transportation Authority). 2014a. "EBusbook." Orange County Transportation Authority Website. Accessed March 31, 2014. http://www.octa.net/ebusbookfeb14/.

OCTA. 2014b. "College Pass." Orange County Transportation Authority Website. Accessed March 31, 2014. http://www.octa.net/Bus-Transit/Fares-and-Passes/College-Pass/.



KEY

- (#) = STUDY INTERSECTION
- ← = APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL, ⊤ = STOP SIGN
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- 2 = NUMBER OF TRAVEL LANES
- (XX)= POSTED SPEED LIMIT (MPH)
- OL = OVERLAP
- F = FREE-RIGHT
- = PROJECT SITE

SOURCE: Linscott, Law & Greenspan Engineers 2015

FIGURE 4.12-1 A

Existing Roadway Conditions and Intersection Controls

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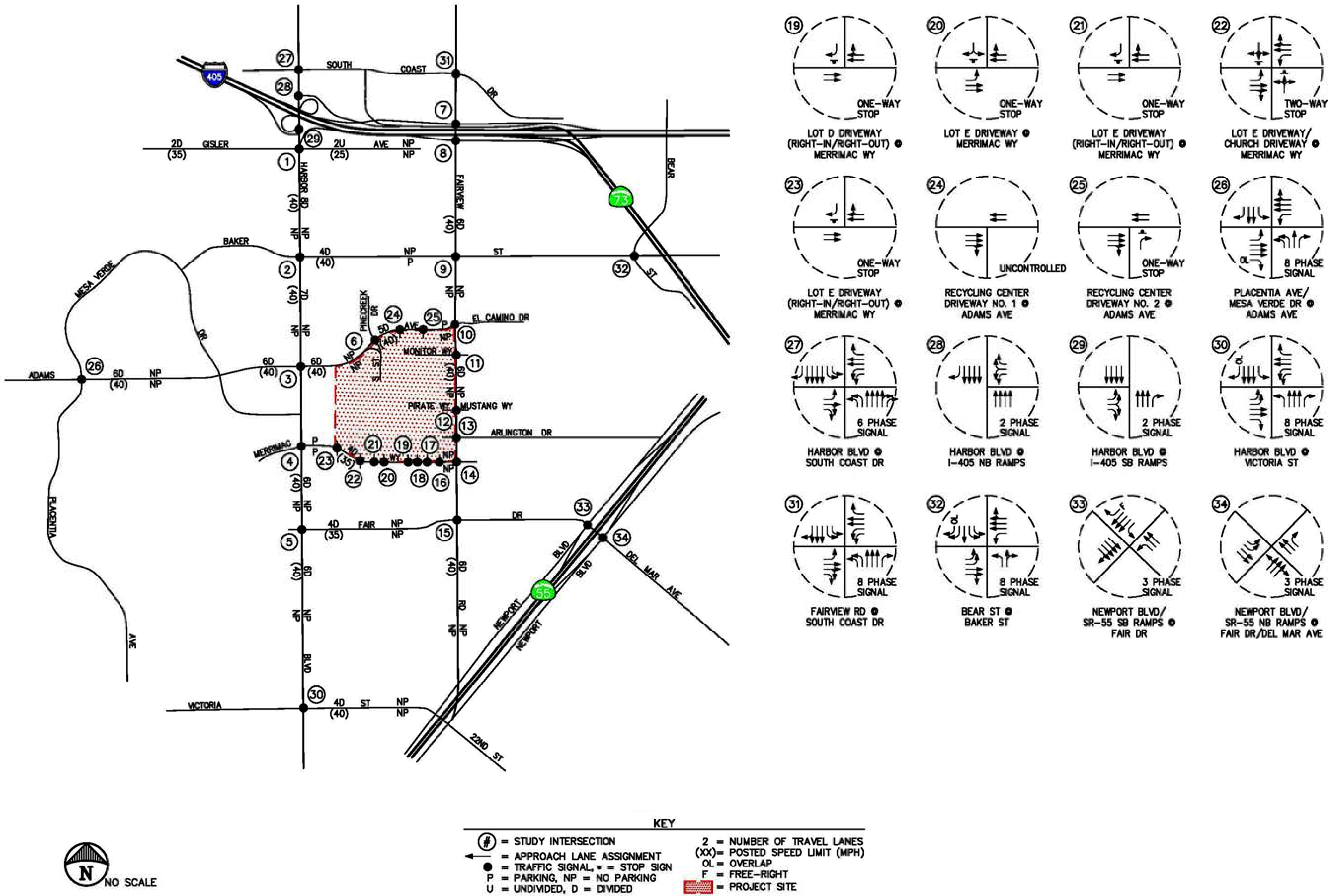

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-1 B

Existing Roadway Conditions and Intersection Controls

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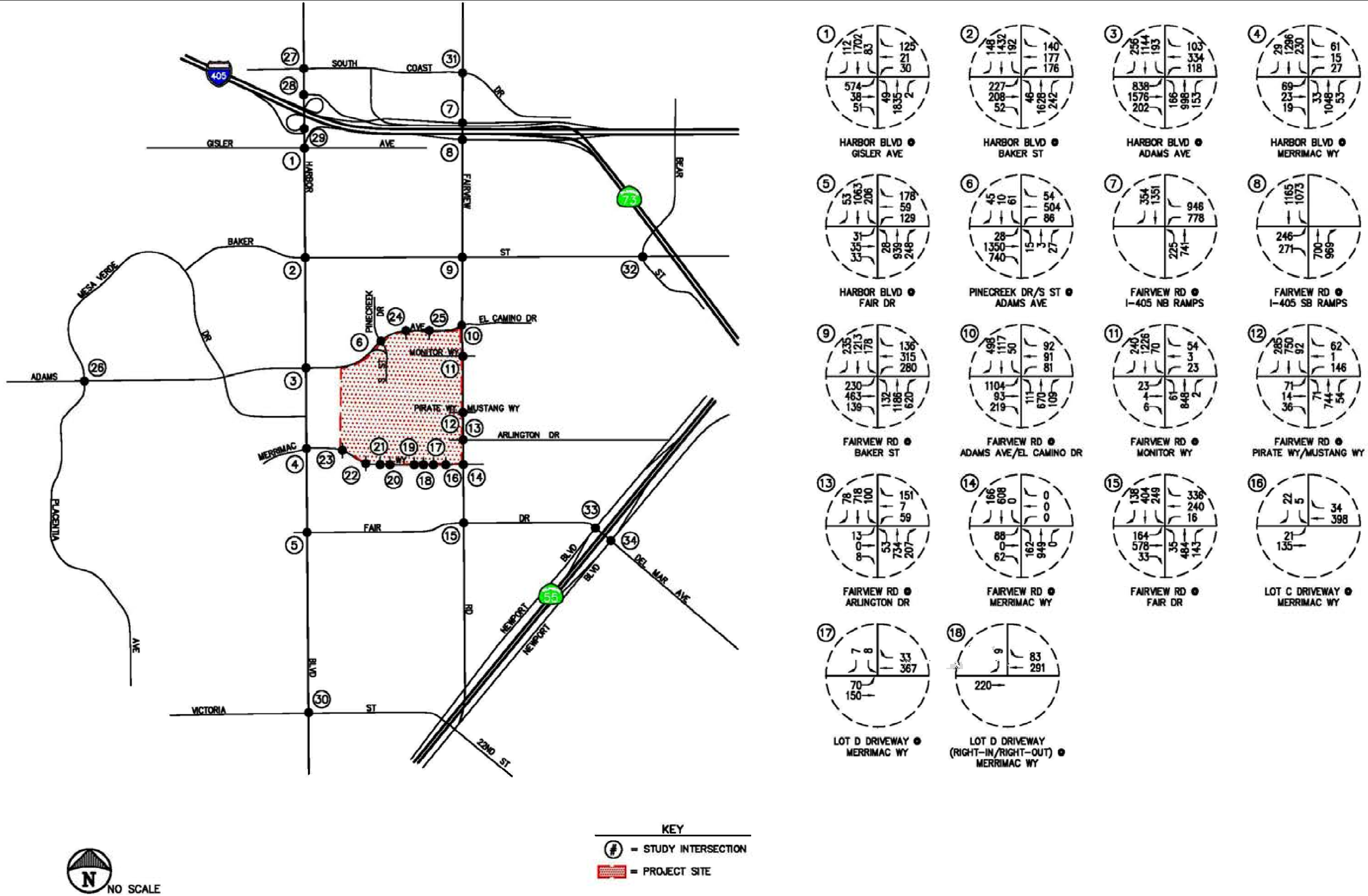

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-2 A

Existing AM Peak Hour Traffic Volumes

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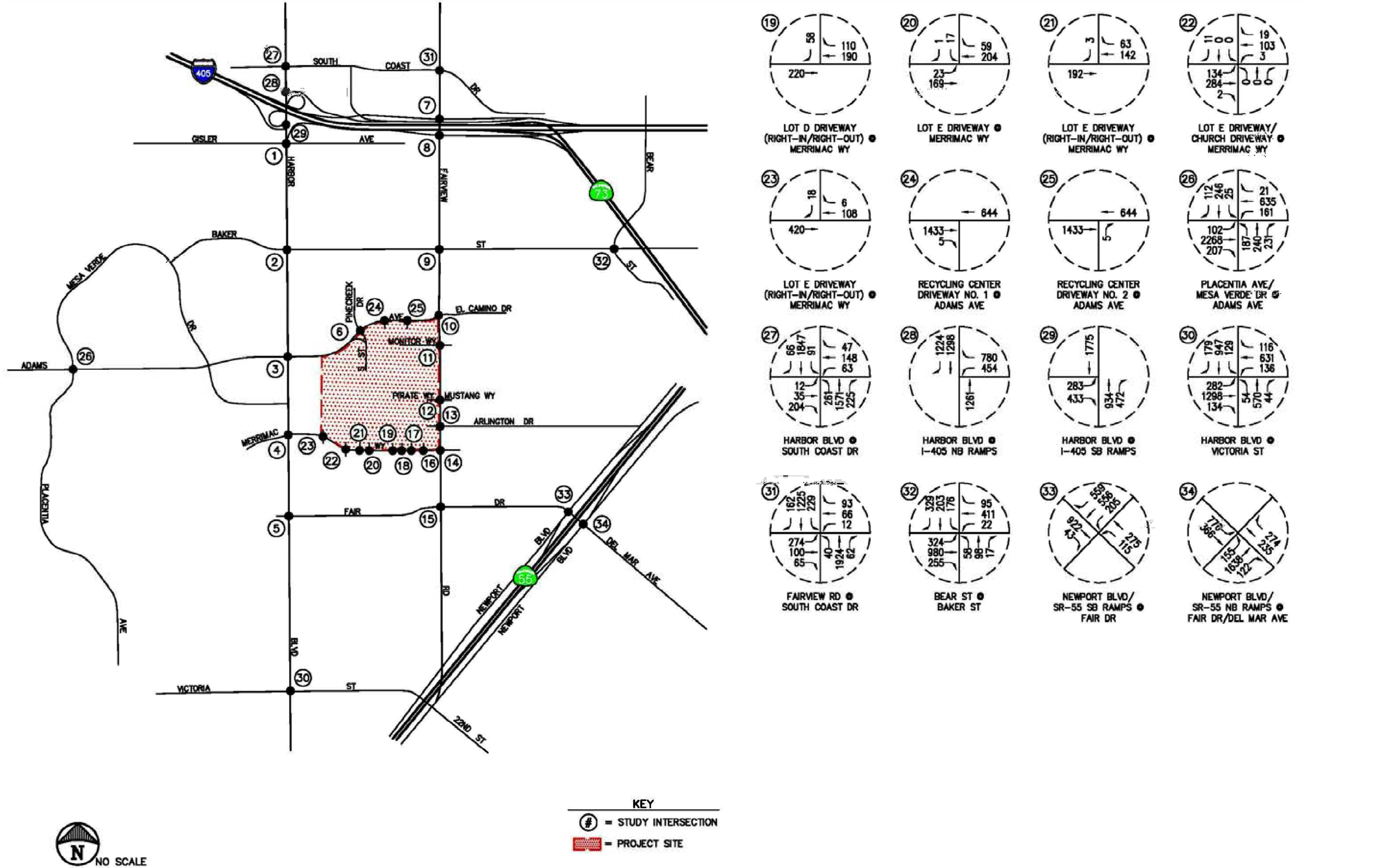

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-2 B

Existing AM Peak Hour Traffic Volumes

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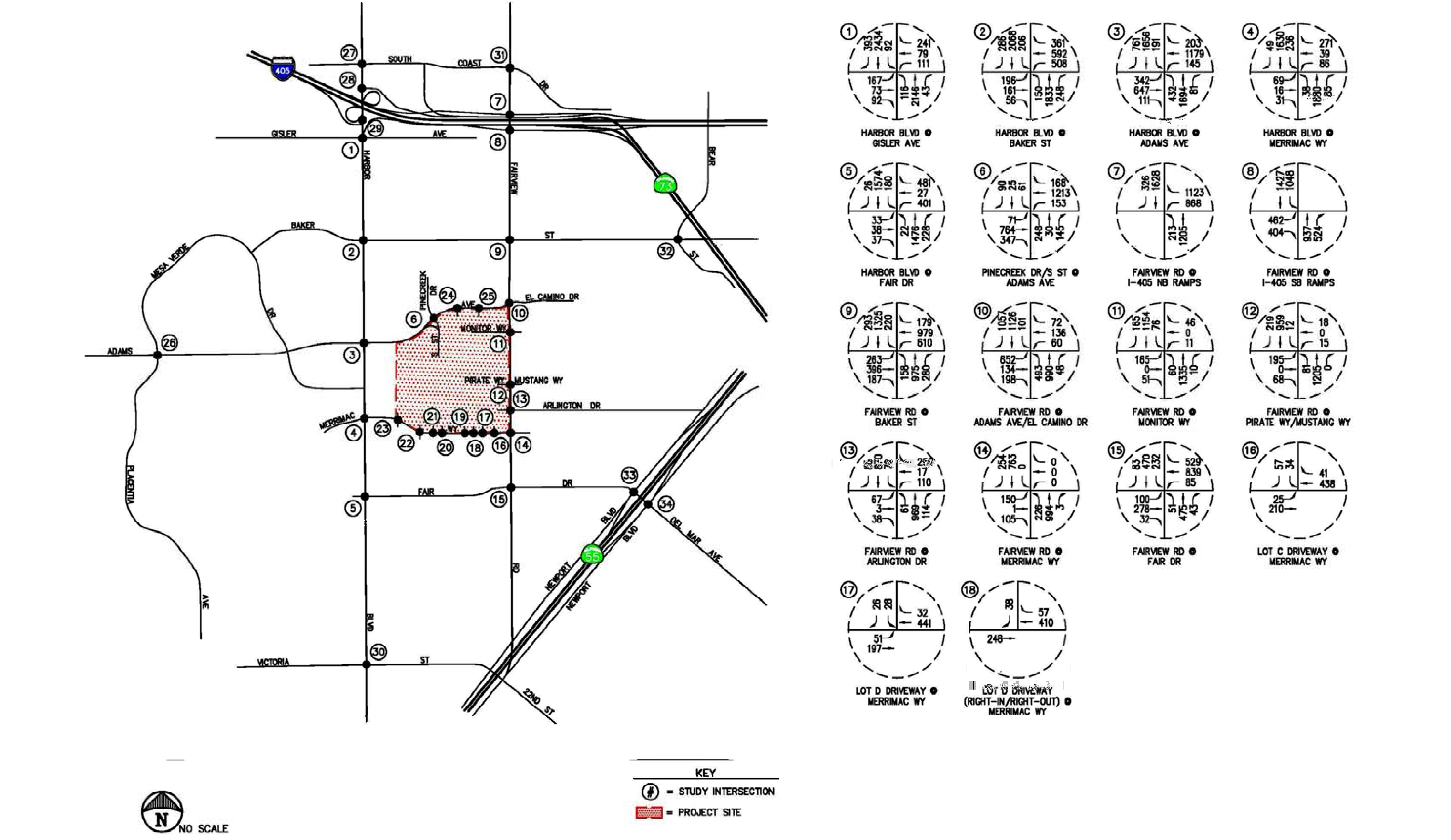

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-3 A

Existing PM Peak Hour Traffic Volumes

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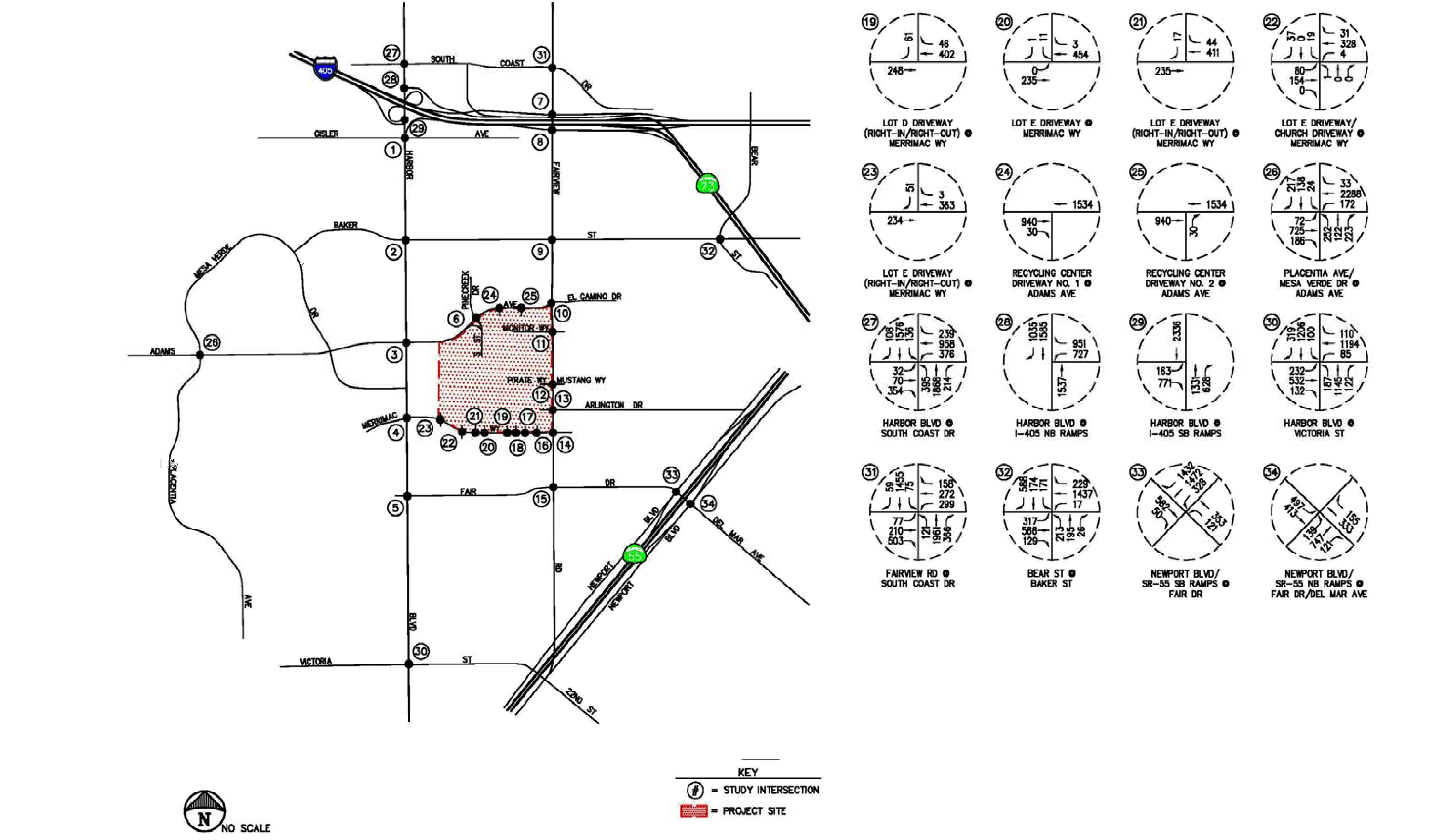

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-3 B

Existing PM Peak Hour Traffic Volumes

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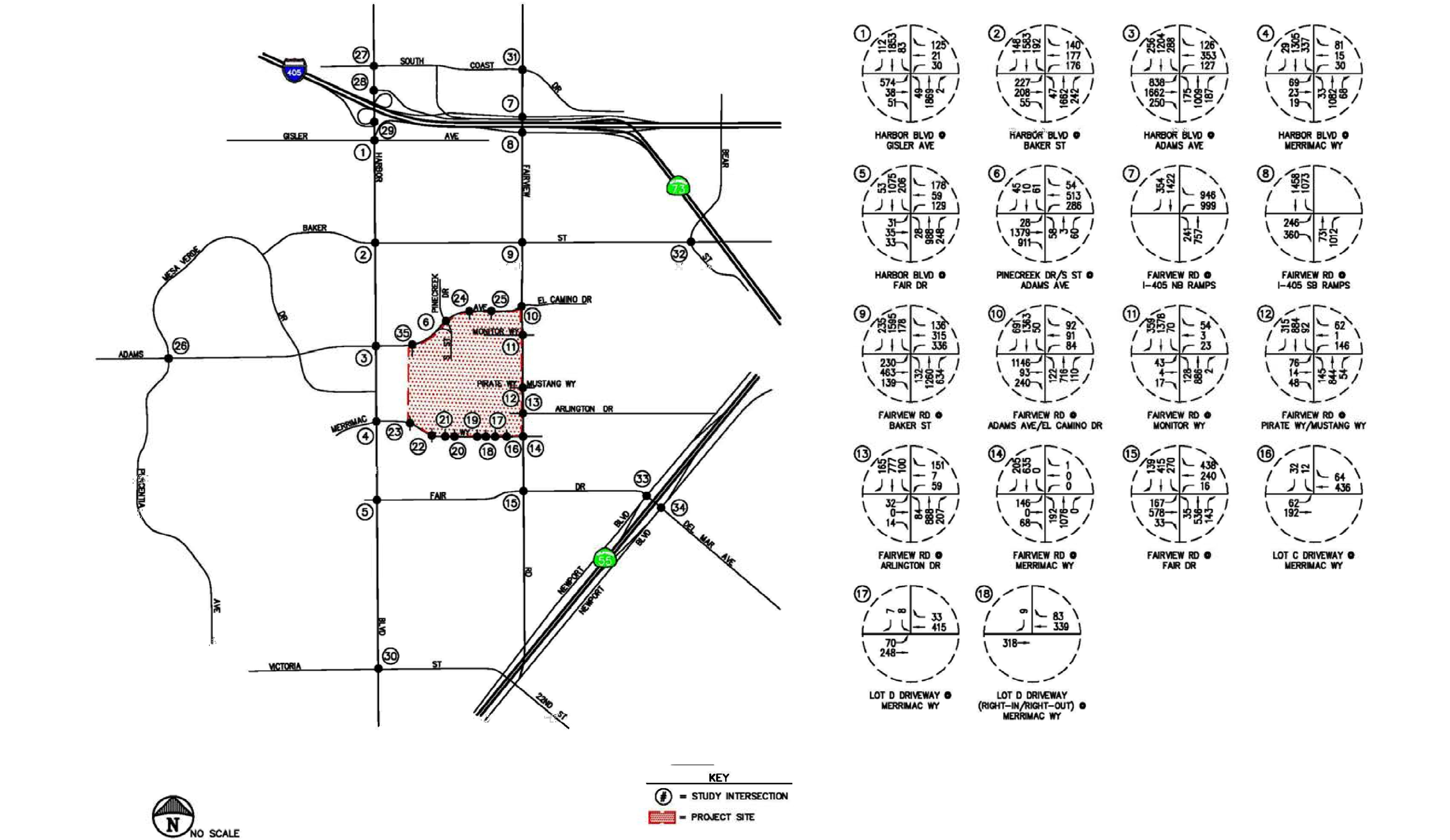

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-4 A

Existing Plus Project AM Peak Hour Traffic Volumes

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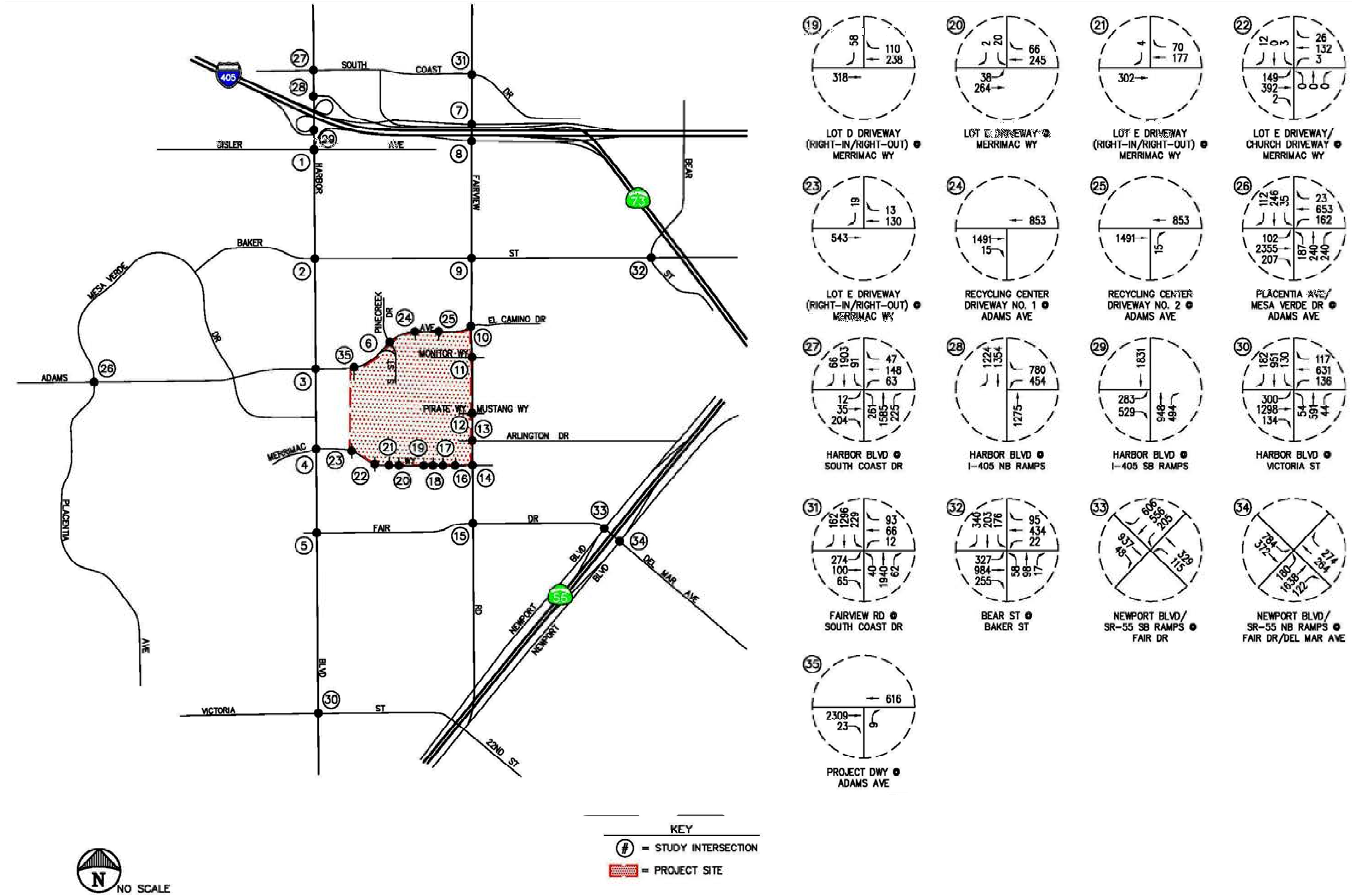

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-4 B

Existing Plus Project AM Peak Hour Traffic Volumes

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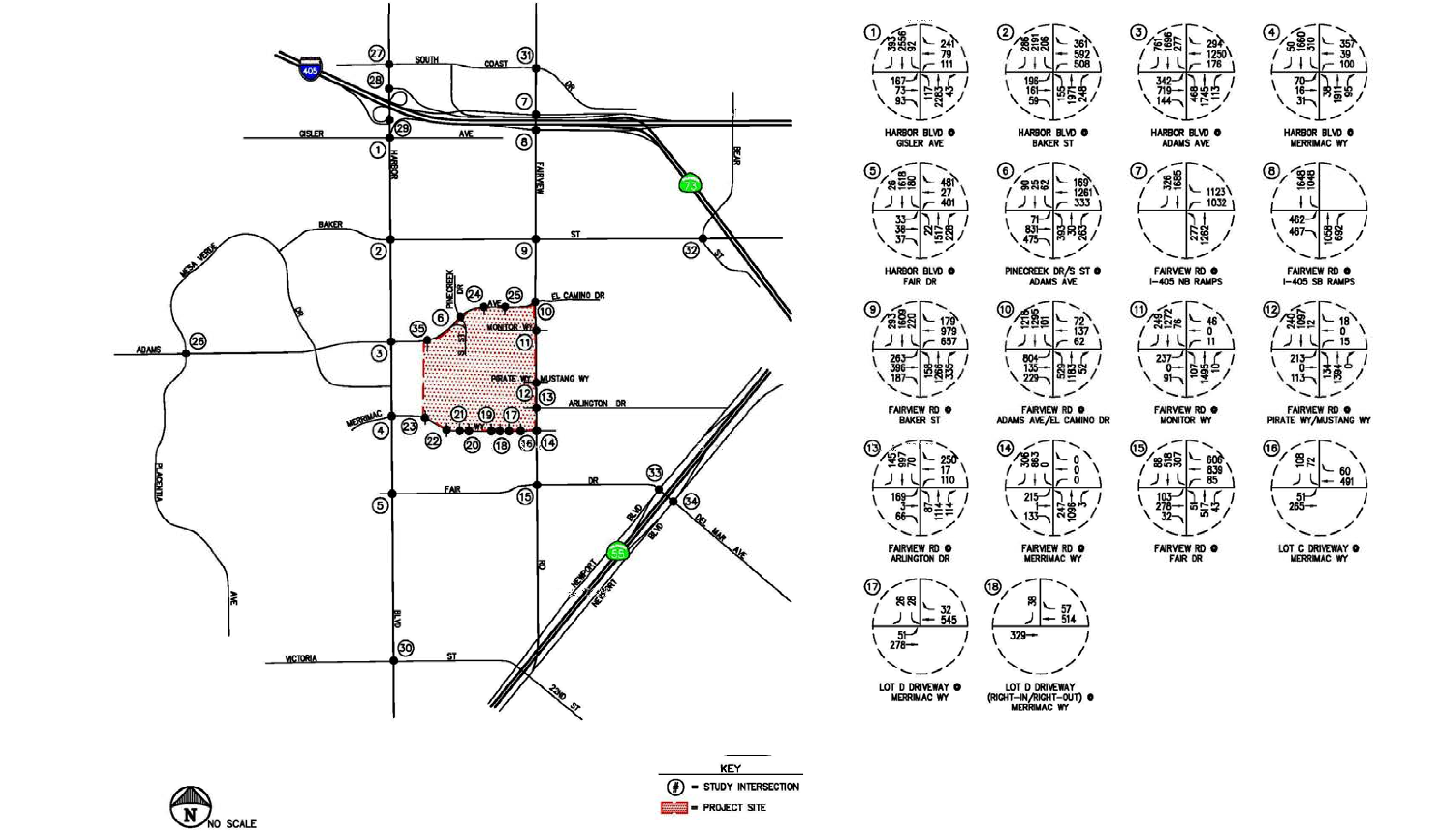

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-5 A

Existing Plus Project PM Peak Hour Traffic Volumes

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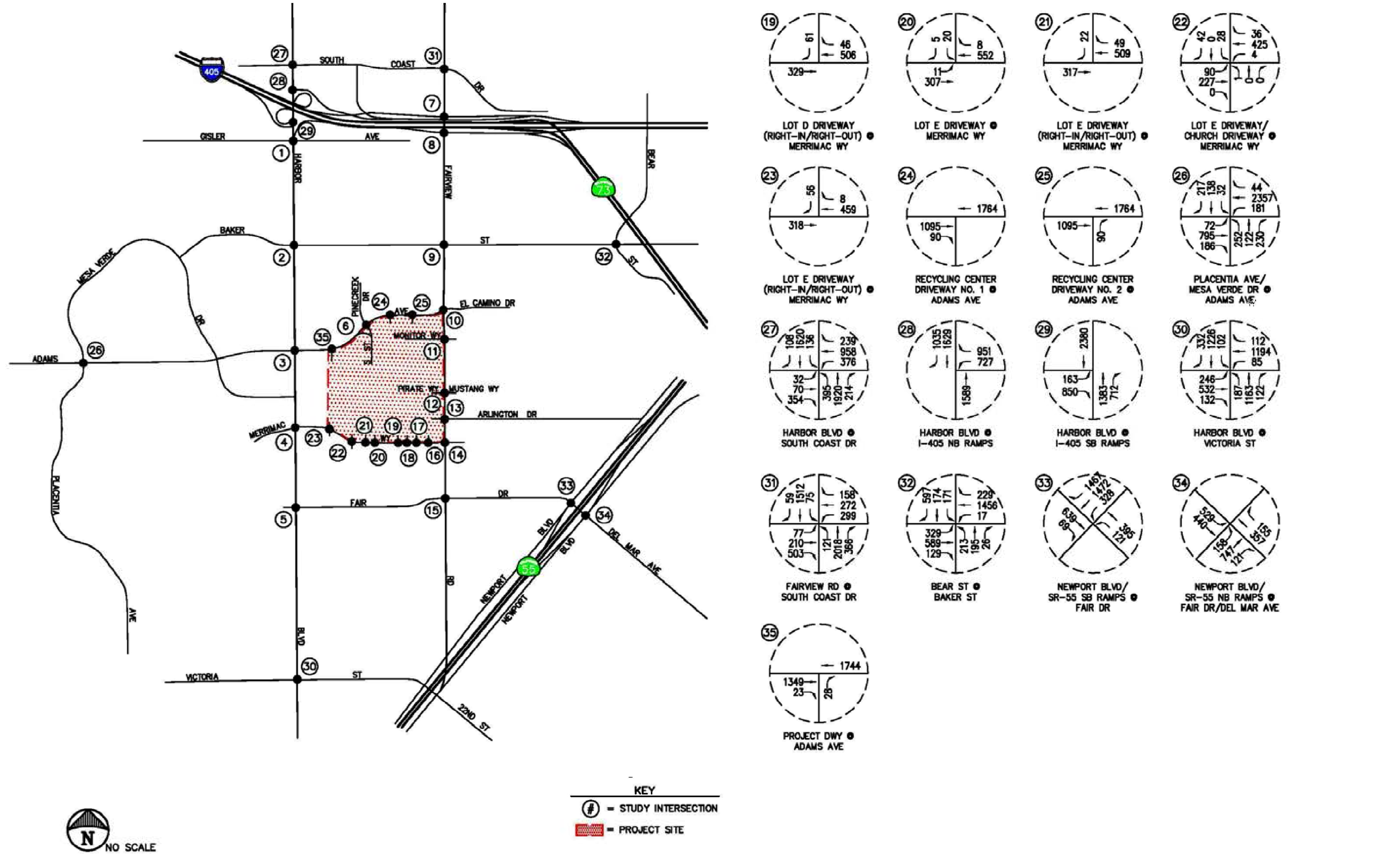

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-5 B

Existing Plus Project PM Peak Hour Traffic Volumes

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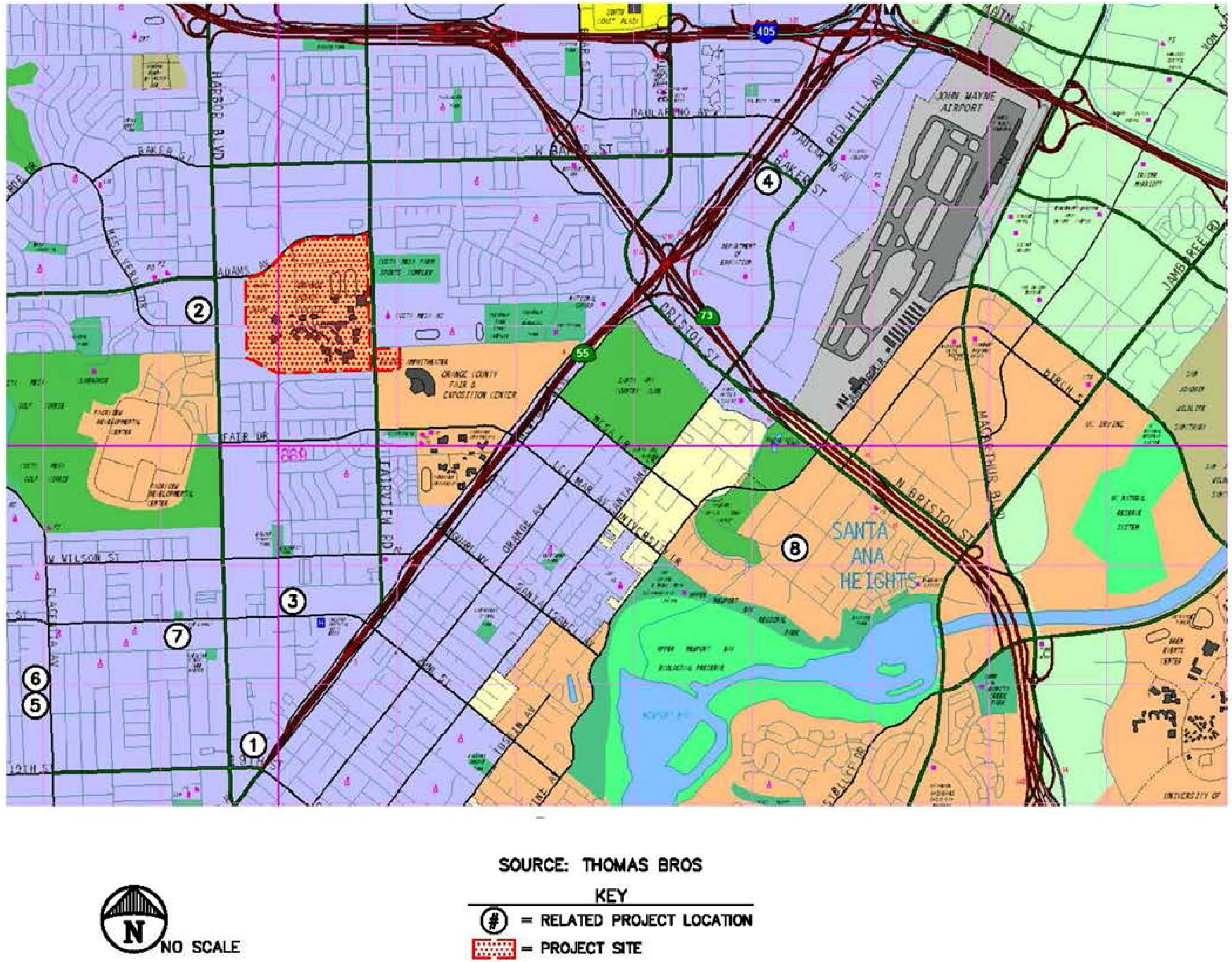

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-6
Locations of Cumulative Projects

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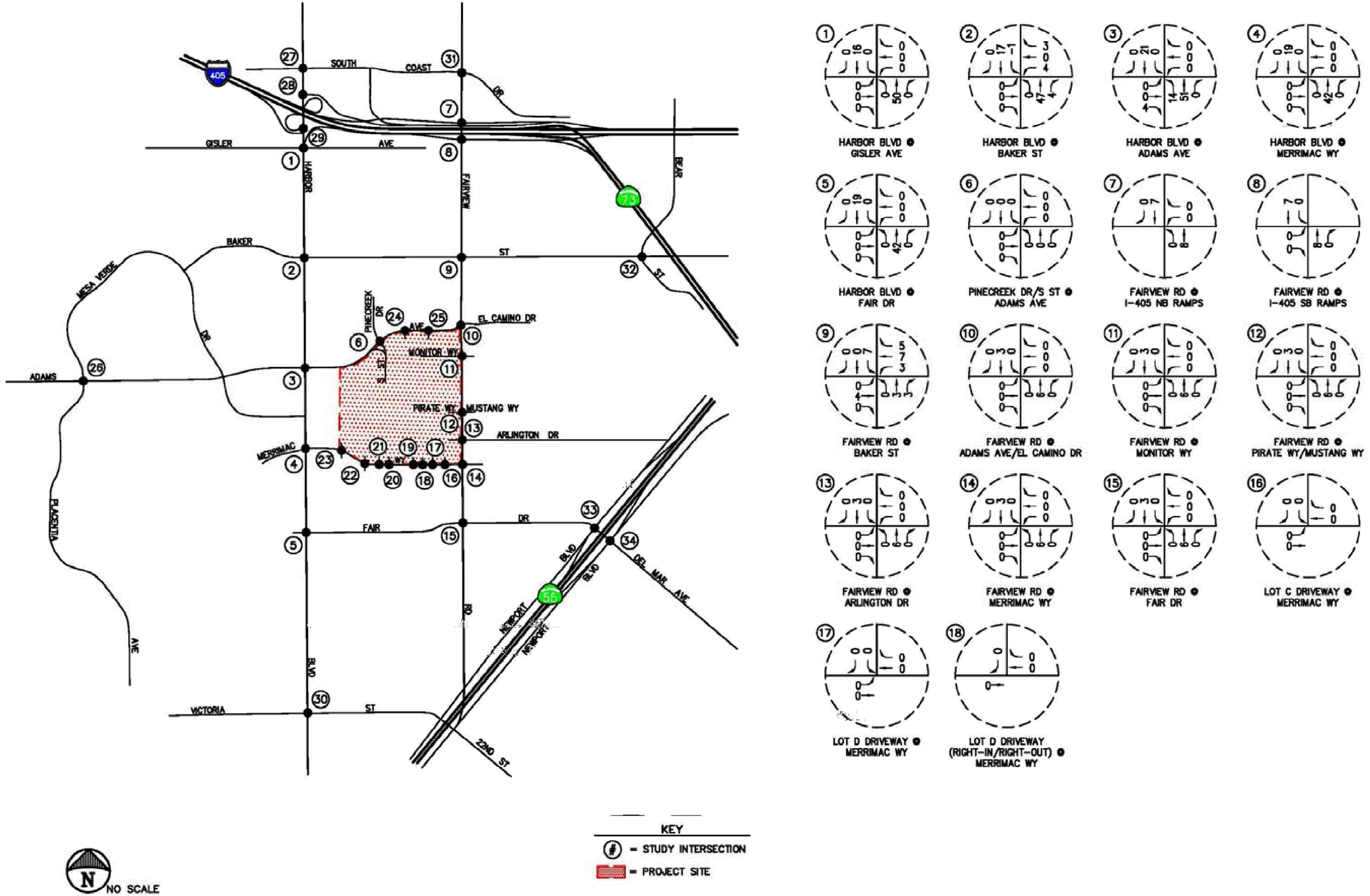

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-7 A

AM Peak Hour Cumulative Project Traffic Volumes

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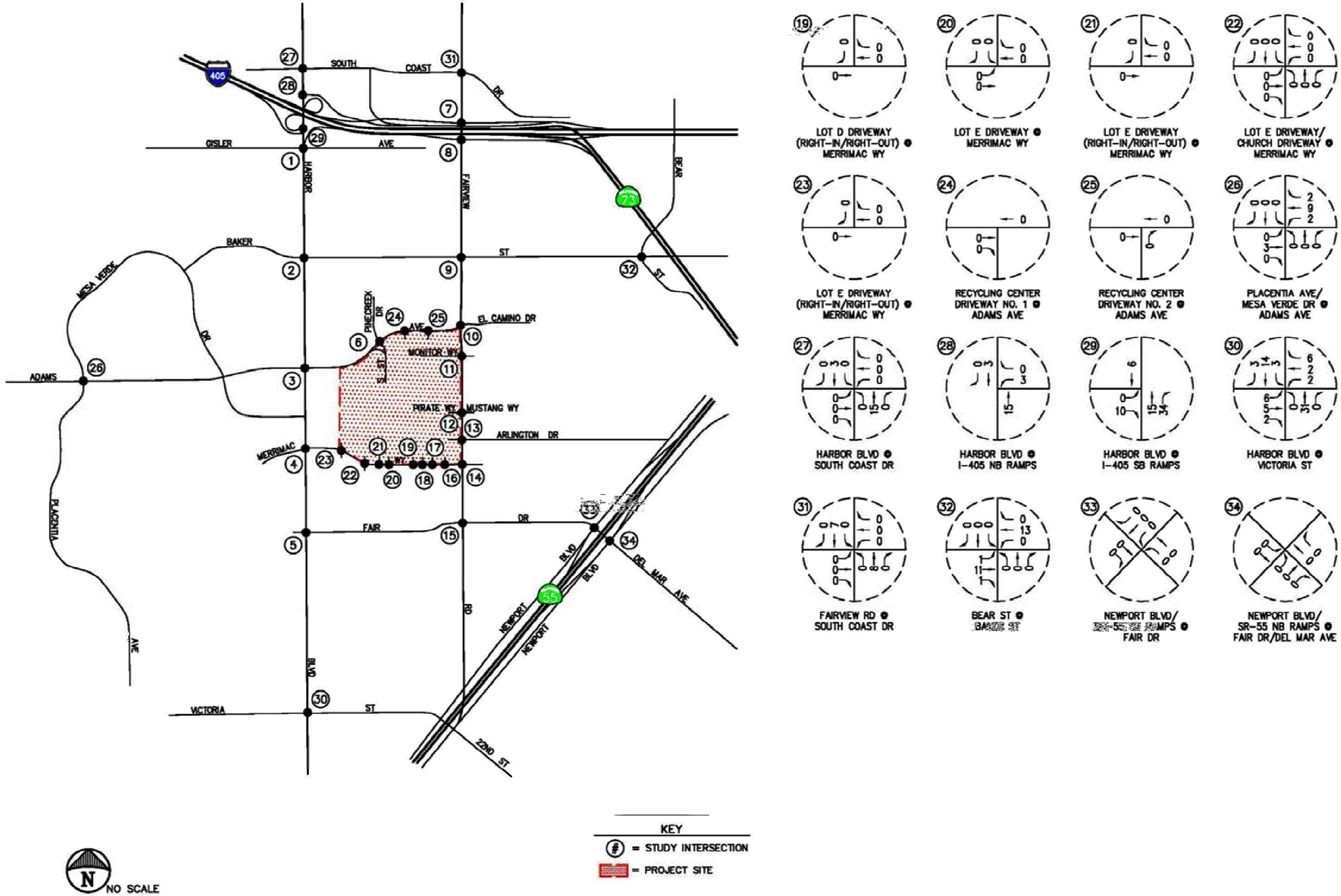

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-7 B

AM Peak Hour Cumulative Project Traffic Volumes

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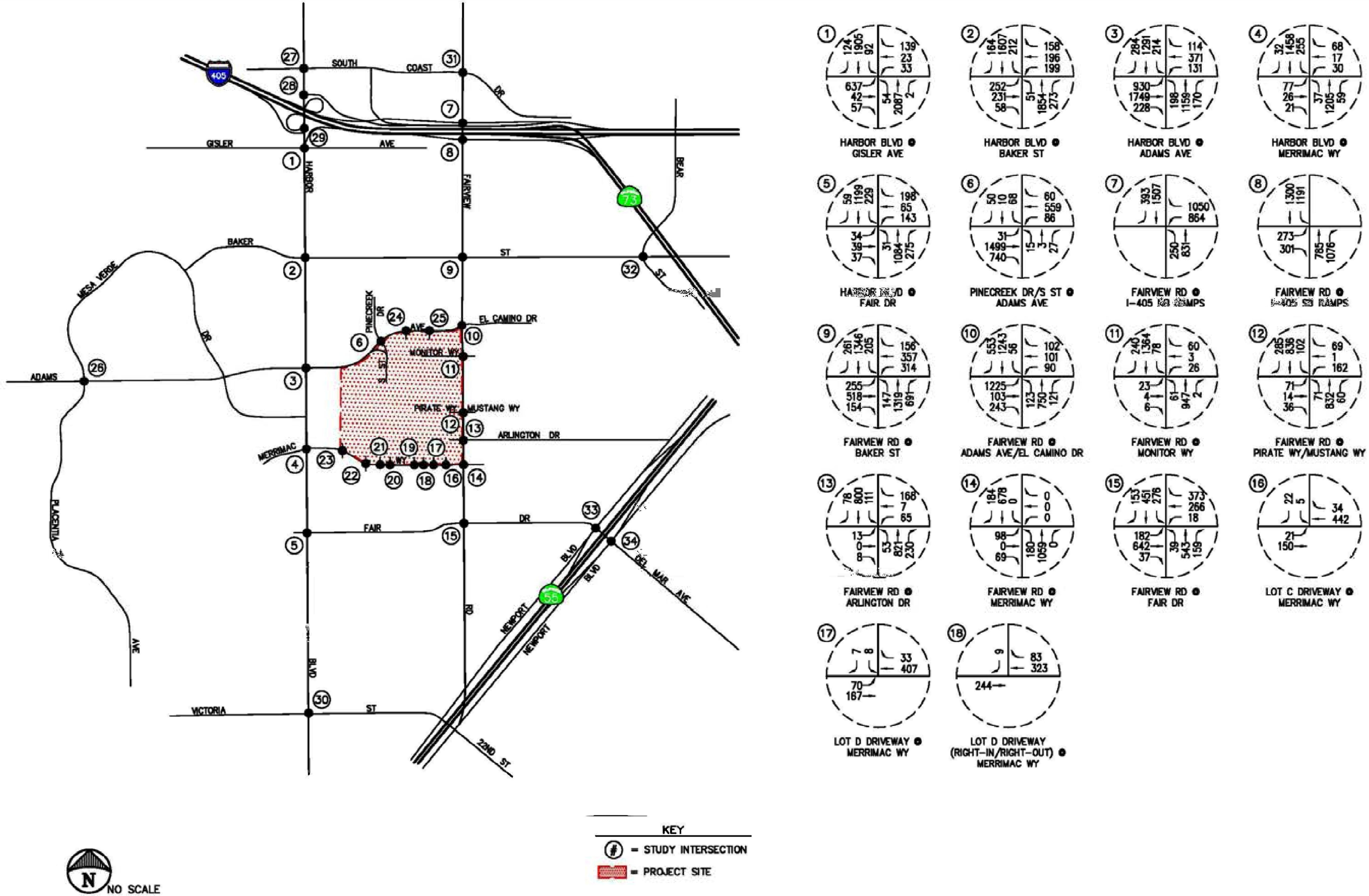

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-8 A

PM Peak Hour Cumulative Project Traffic Volumes

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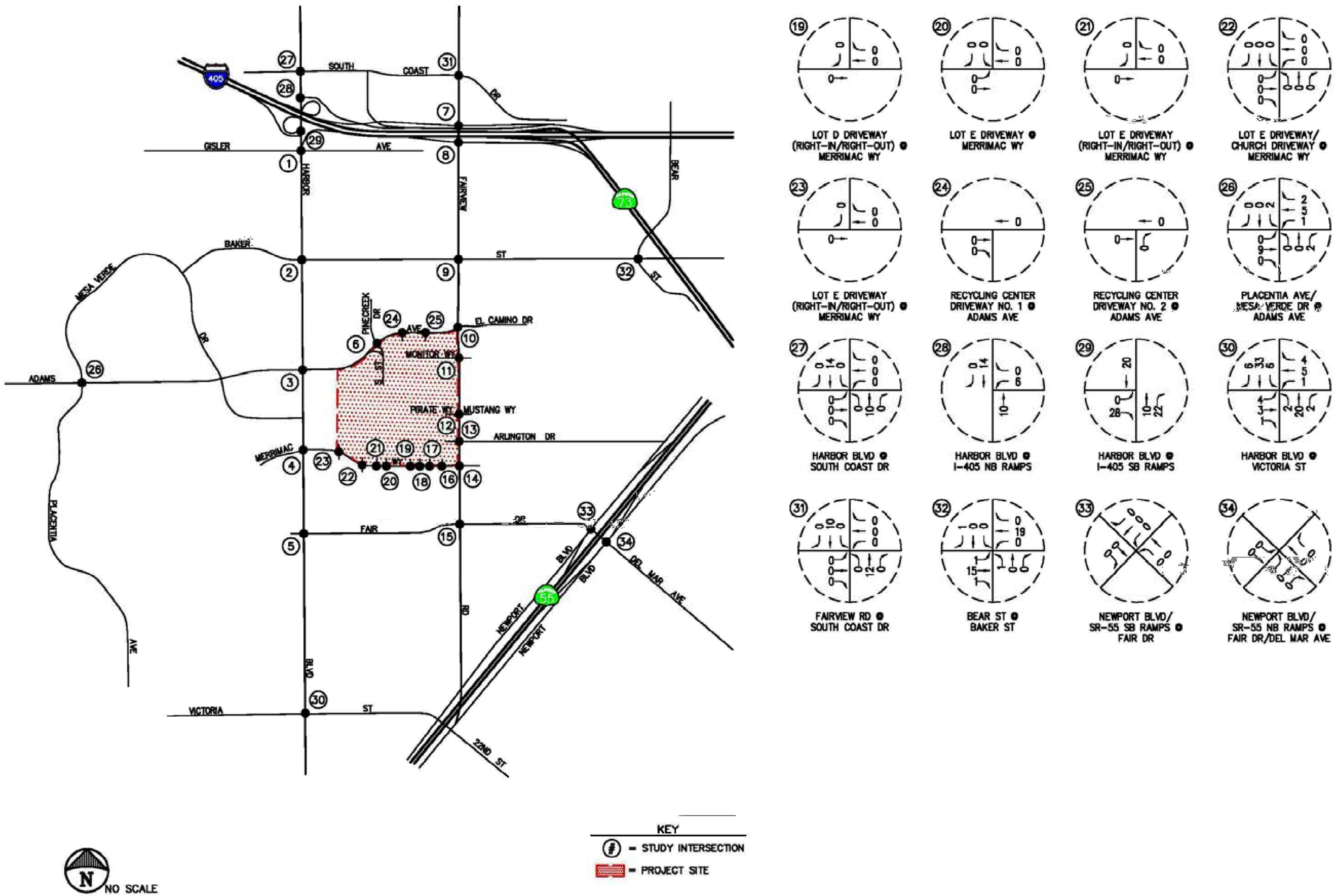

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-8 B

PM Peak Hour Cumulative Project Traffic Volumes

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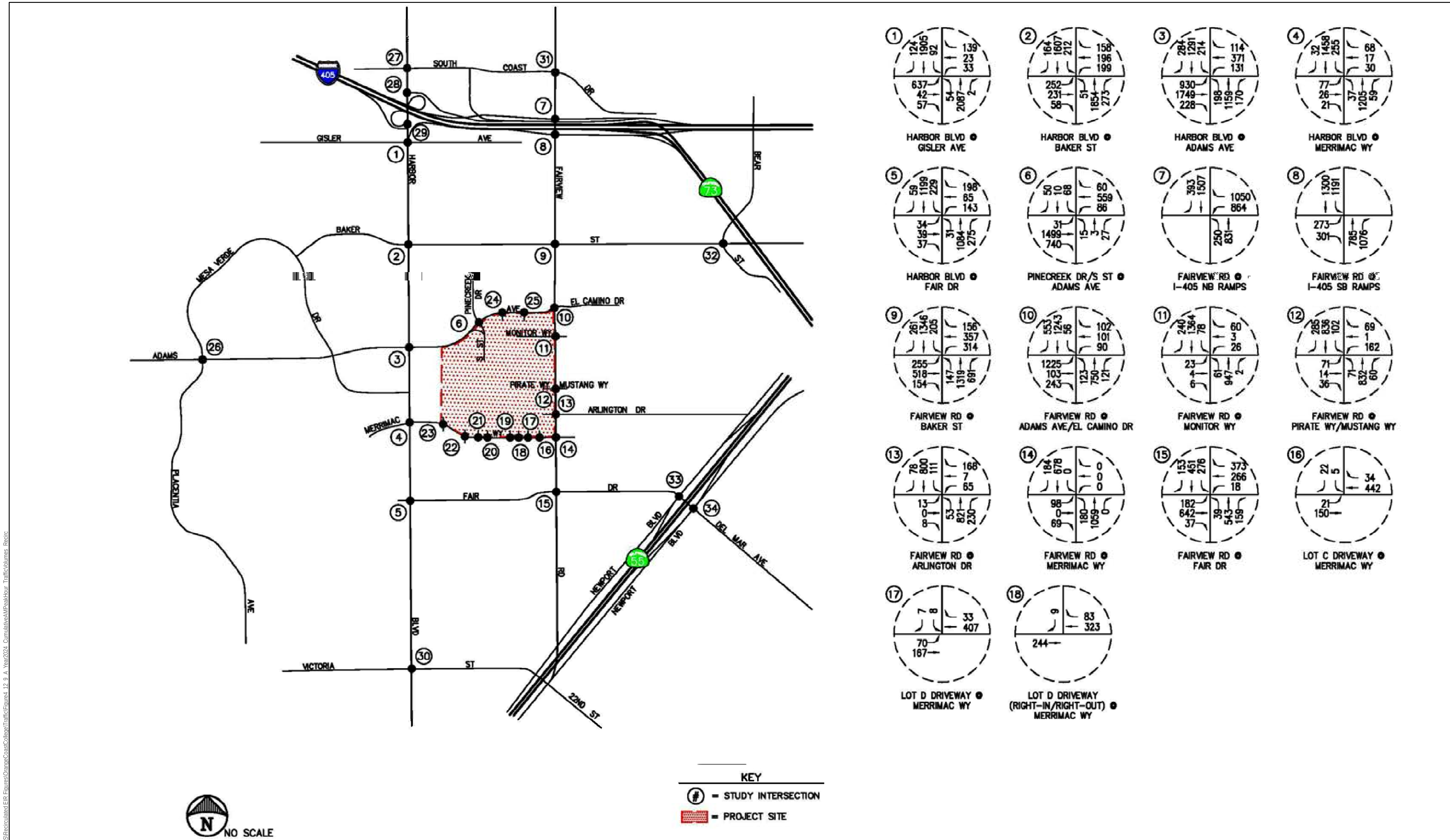

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-9 A

Year 2024 Cumulative AM Peak Hour Traffic Volumes

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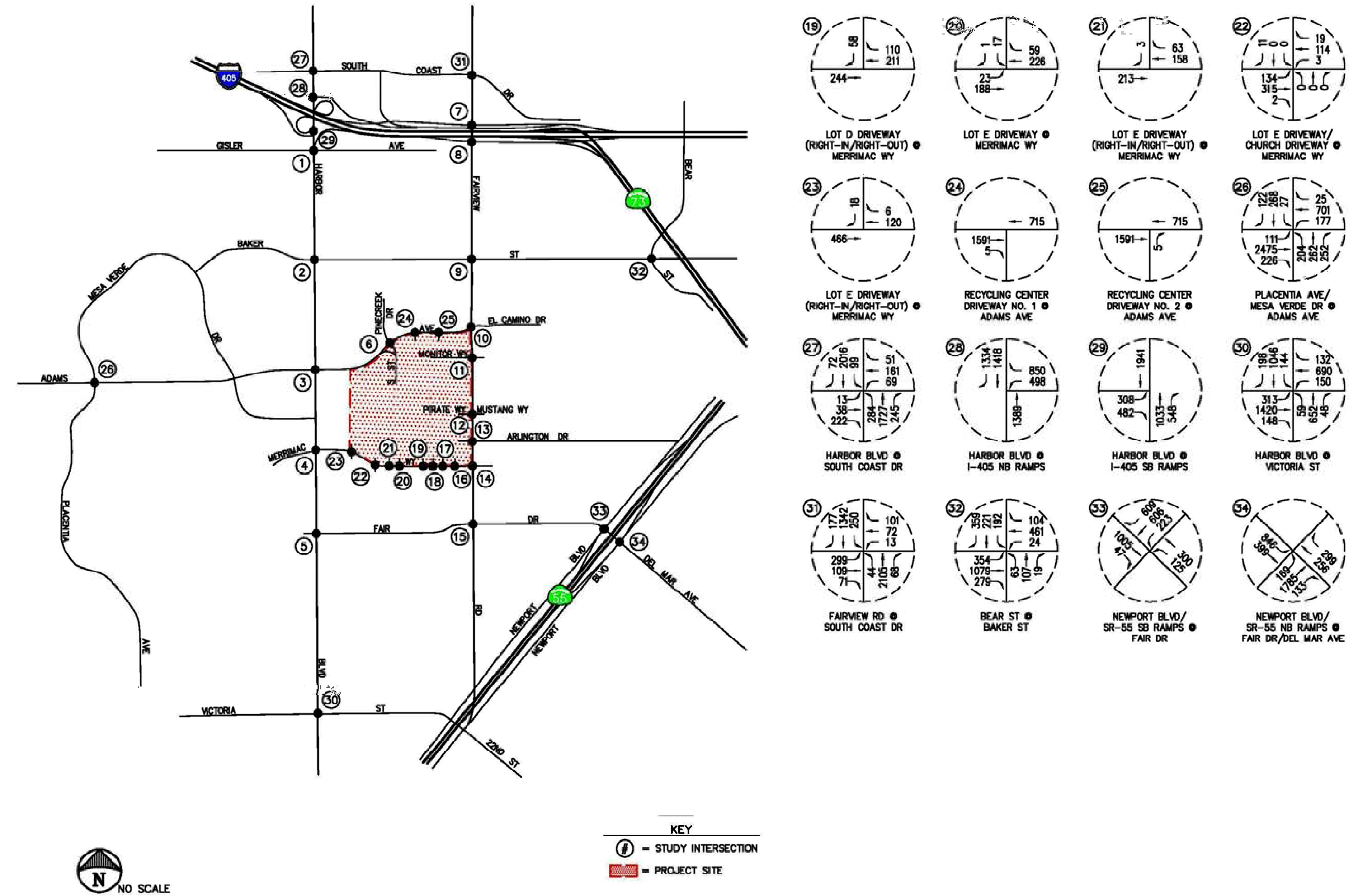

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-9 B

Year 2024 Cumulative AM Peak Hour Traffic Volumes

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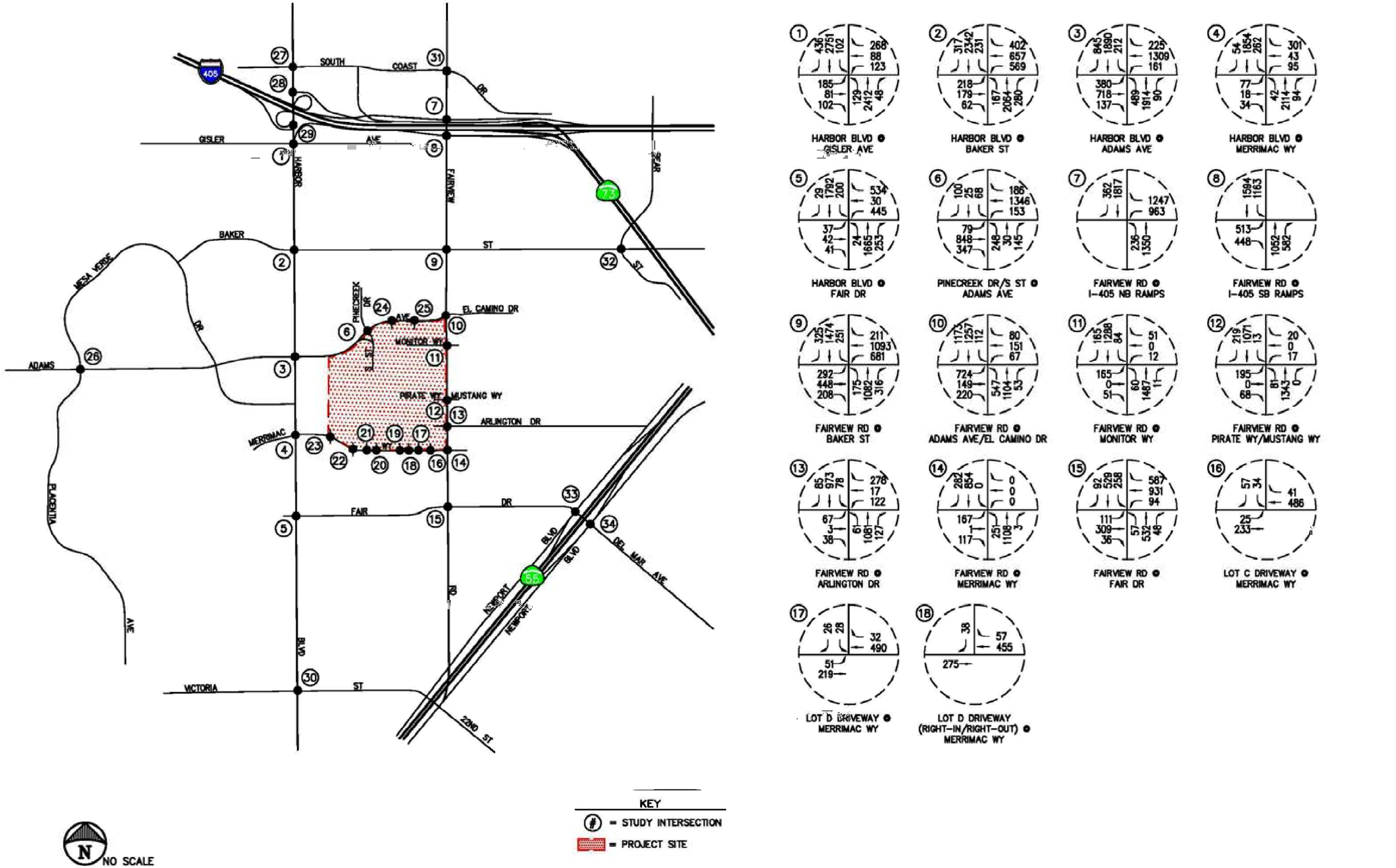

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-10 A

Year 2024 Cumulative PM Peak Hour Traffic Volumes

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Orange Coast College Vision 2020 Facilities Master Plan Recirculated Program EIR

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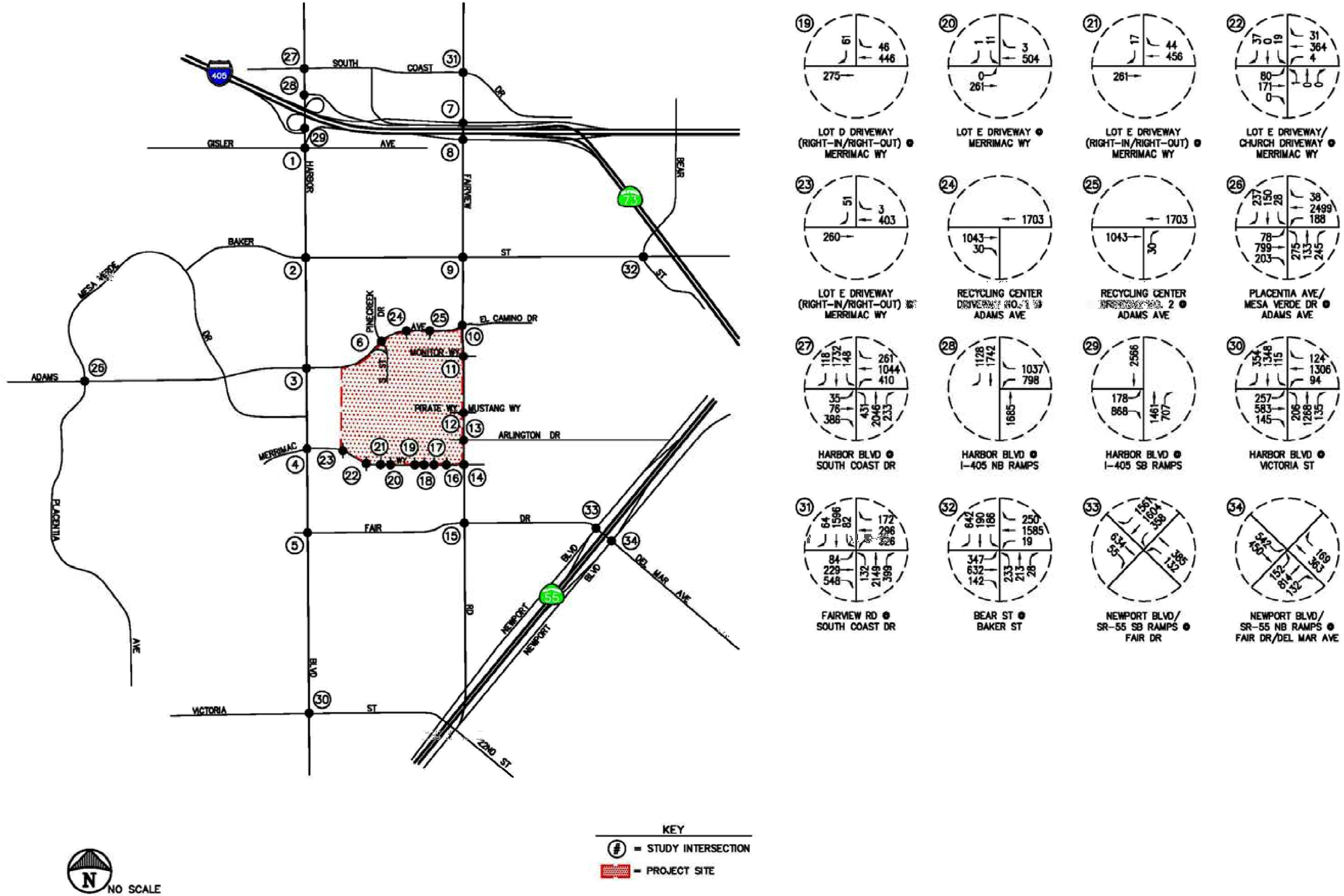

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-10 B

Year 2024 Cumulative PM Peak Hour Traffic Volumes

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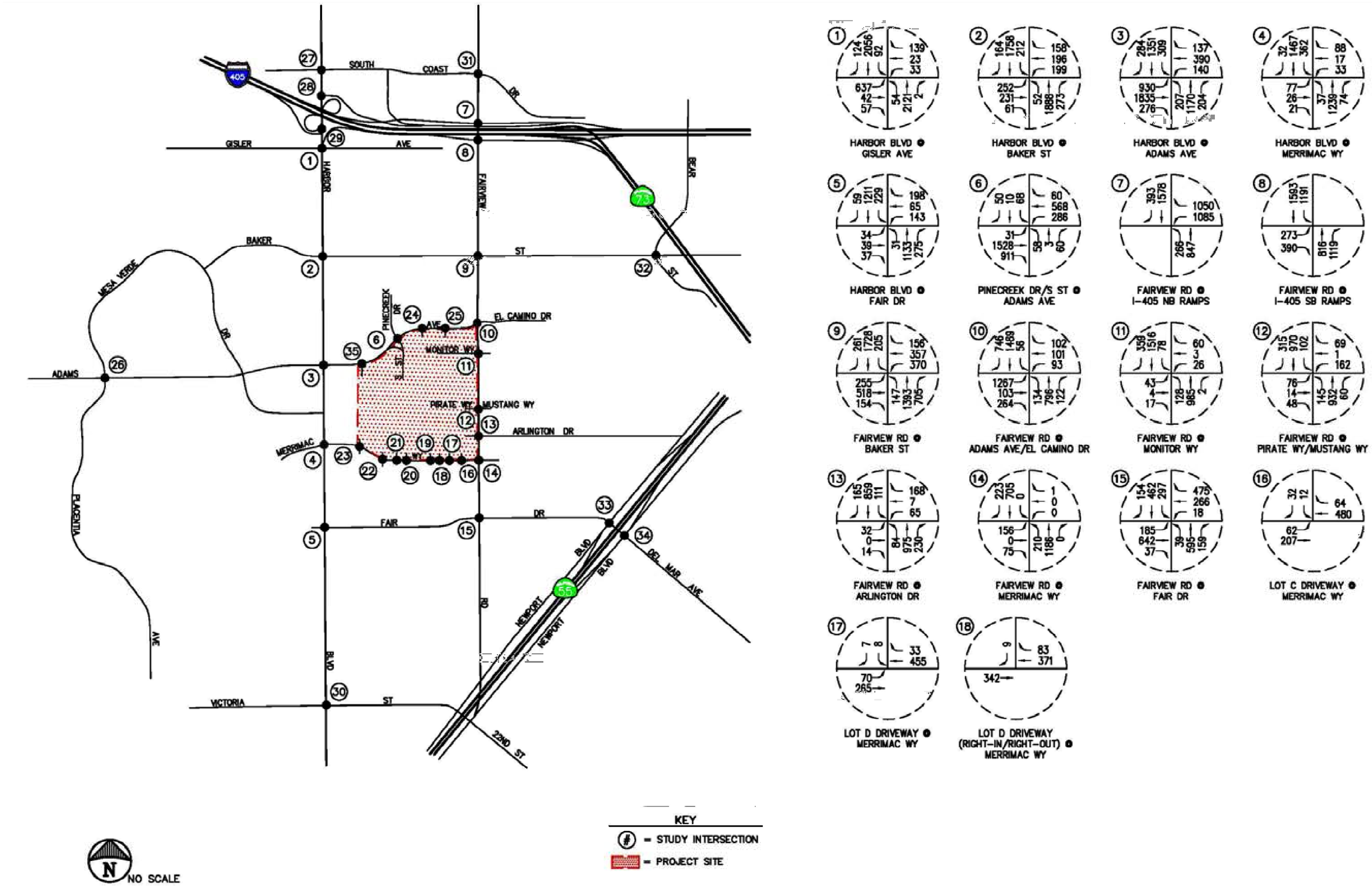

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-11 A

Year 2024 Cumulative Plus Project AM Peak Hour Traffic Volumes

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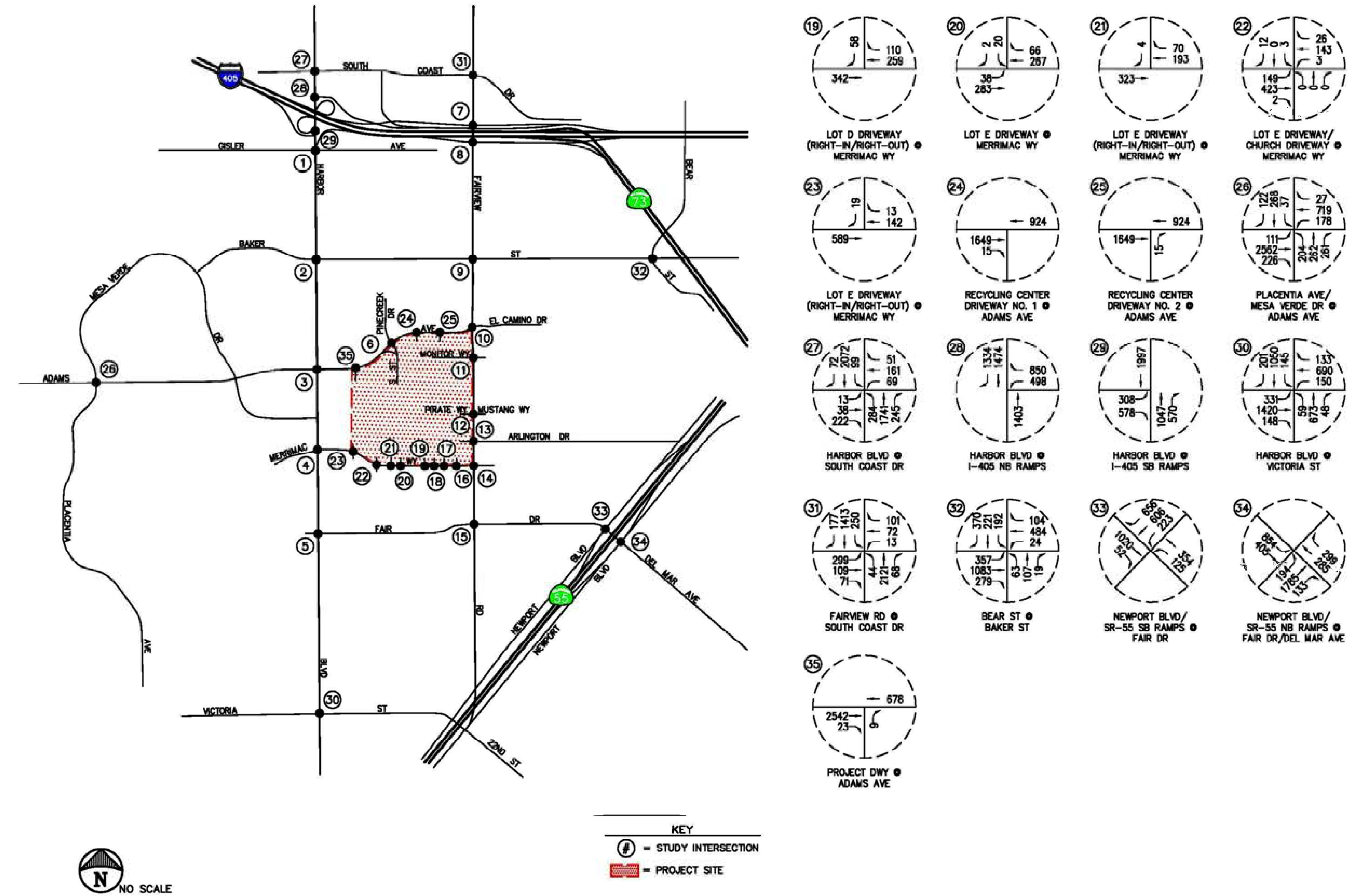

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-11 B

Year 2024 Cumulative Plus Project AM Peak Hour Traffic Volumes

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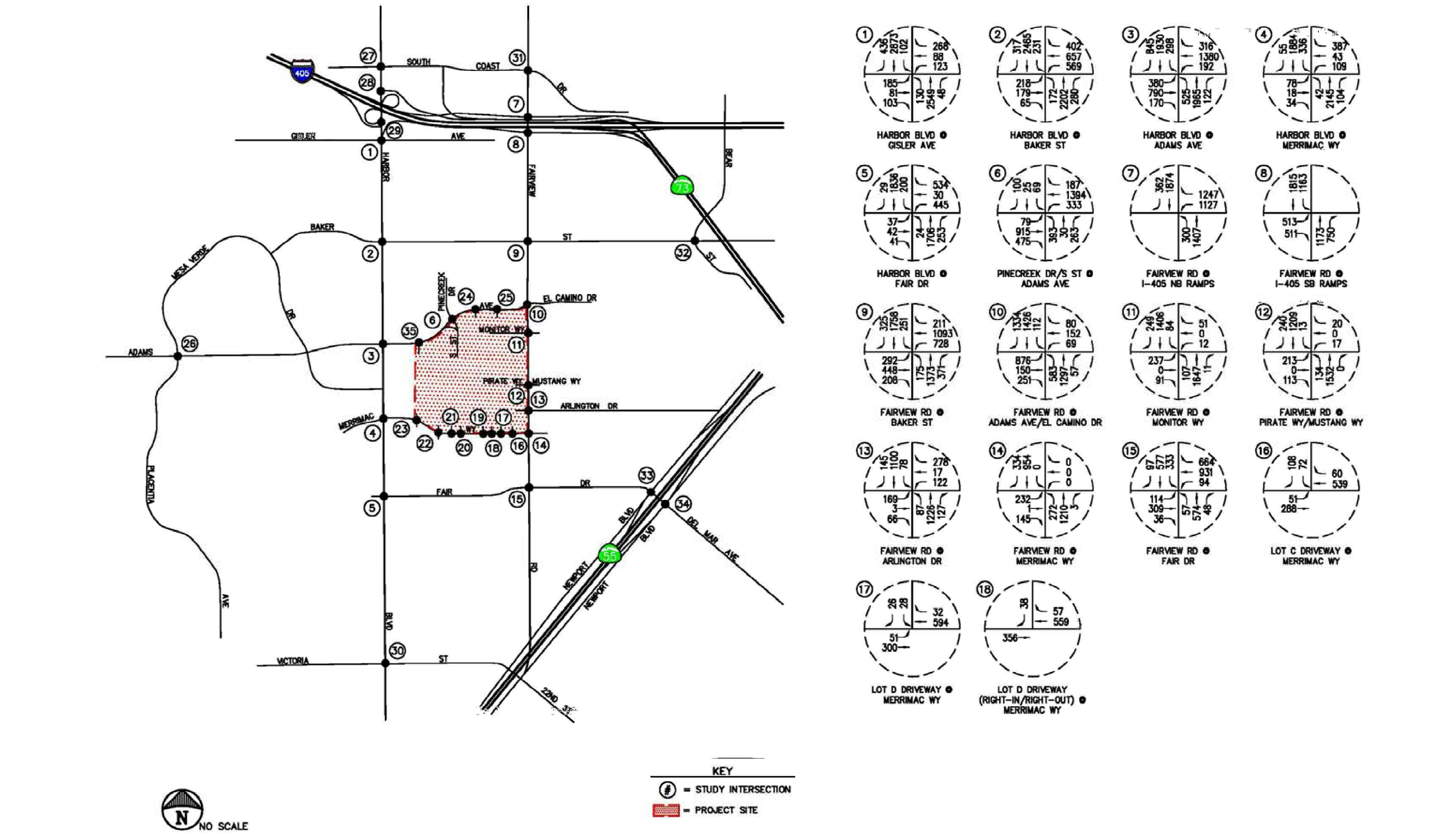

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-12 A

Year 2024 Cumulative Plus Project PM Peak Hour Traffic Volumes

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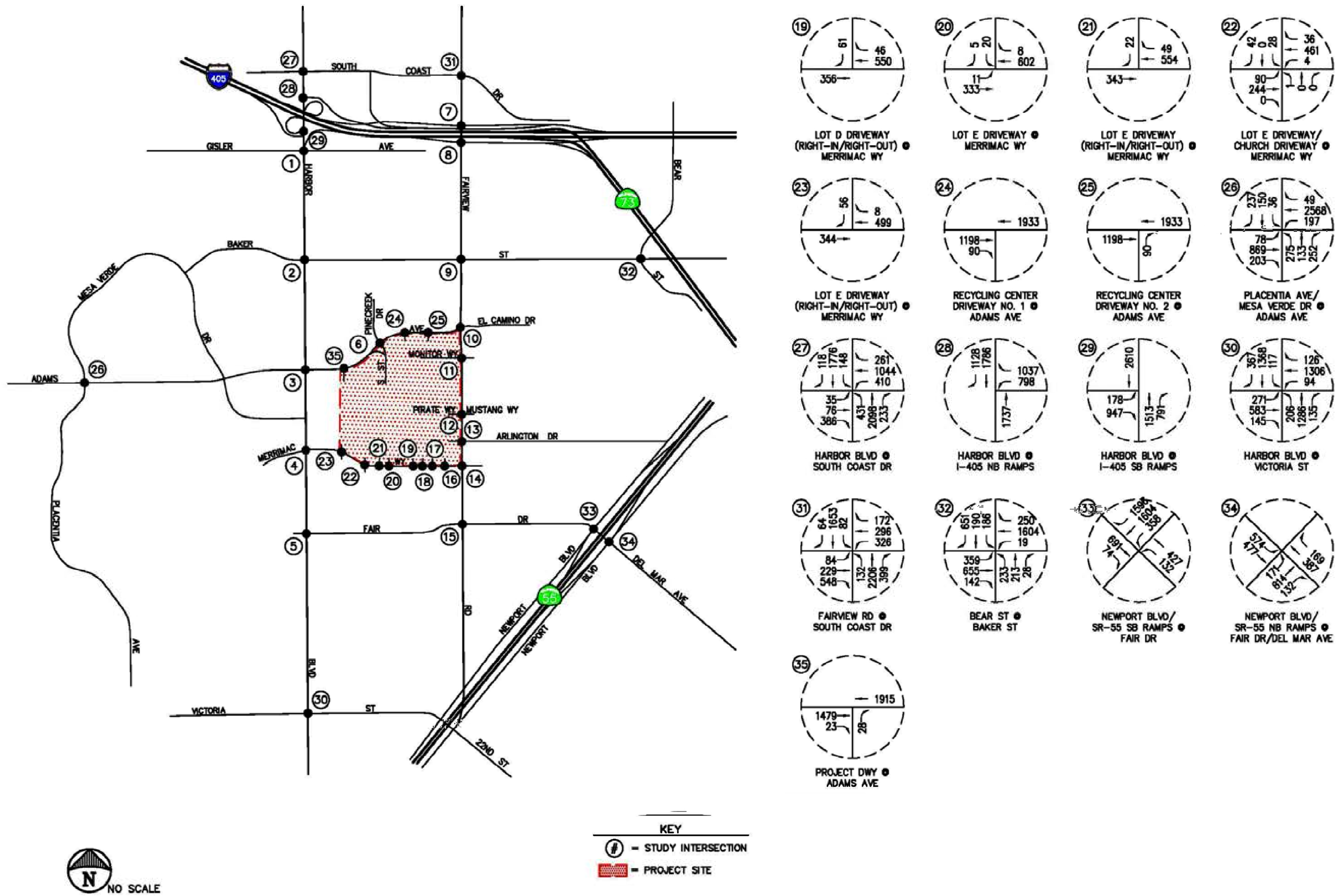

SOURCE: Linscott, Law & Greenspan Engineers 2015.

FIGURE 4.12-12 B

Year 2024 Cumulative Plus Project PM Peak Hour Traffic Volumes

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4.13 UTILITIES AND SERVICE SYSTEMS

This section evaluates the potential impacts of the Orange Coast College (OCC) Vision 2020 Facilities Master Plan (proposed project) on utilities including sewer infrastructure, water supply and service systems, reclaimed water, stormwater systems, solid waste disposal, and energy. Information provided in Section 4.13.1, Existing Conditions, is based on communications with individuals from OCC Maintenance and Operations. The evaluation is based on data, publications, and resources prepared by utility and service system providers such as Mesa Consolidated Water District (MCWD), CR&R Waste and Recycling Services (CR&R), Southern California Edison, and the Southern California Gas Company.

4.13.1 Existing Conditions

4.13.1.1 Wastewater

The Costa Mesa Sanitary District (CMSD) provides sewer waste collection for the majority of Costa Mesa, including the OCC campus (City of Costa Mesa 2002). The CMSD is an independent special district and is responsible for maintaining approximately 224 miles of pipeline (CMSD 2014). Wastewater from the OCC campus is collected by the CMSD and is then treated by the Orange County Sanitation District (OCSD) (City of Costa Mesa 2002).

OCSD maintains and operates Reclamation Plant No. 1 and Treatment Plant No. 2, located in Fountain Valley and Huntington Beach, respectively, as well as 15 pump stations located in the OCSD service area (479 square miles) (OCSD 2009). The OCSD treatment plants combined processed 201 million gallons per day (MGD) for the 2011–2012 fiscal period and have a combined primary treatment capacity of 372 MGD (OCSD 2009, 2012). Plant No.1 has a primary capacity of 204 MGD and treats water later to be reclaimed by Orange County Water District (OCWD) for landscape irrigation use and groundwater replenishment. Additional treated effluent from Plant No. 1 is also sent to Plant No. 2, where effluents are mixed, dechlorinated with sodium bisulfite, and disposed of in the ocean (OCSD 2011). Both plants involve a primary treatment where barscreens and aerated grit chambers are used to separate large solids from wastewater. Secondary treatment involves the use of anaerobic digesters for organic waste stabilization and pathogen destruction (OCSD 2011).

There are three main private sewer lines within the campus, which are owned and maintained by OCC (Goode et al., pers. comm. 2013a). An 8-inch main private line runs from south to north and is connected to an 18-inch sewer line along Adams Avenue, which is managed by the CMSD (CMSD 1968). A CMSD 15-inch trunk line runs from north to south along Fairview Road and connects to two private sewer lines at Arlington Drive and at Pirate Way. Both of these 8-inch private sewer lines run from west to east (OCC 2005).

4.13.1.2 Potable Water

OCC currently receives potable water from groundwater and imported water sources. The OCWD manages the Lower Santa Ana Basin, which provides groundwater to the City of Costa Mesa (City). The MCWD owns nine wells that produce water from the Lower Santa Ana Groundwater Basin. The MCWD receives additional groundwater supplies from deep aquifers located within Costa Mesa (City of Costa Mesa 2002). Imported water sources originate from the Colorado River Aqueduct system as well as from the Upper Feather River in north-central California. The Metropolitan Water District of Southern California (MWD) manages and operates the water distribution system to Orange County (City of Costa Mesa 2002).

The MCWD currently provides 82% groundwater, 12% imported water, and 6% recycled water to portions of Costa Mesa, including the OCC campus (MCWD 2011). According to the MCWD 2010 Urban Water Management Plan, for the Year 2015 and beyond water demand is projected to be composed of 94% local groundwater and 6% recycled water—no imported water is anticipated to be purchased for 2015 through 2035 (MCWD 2011). Therefore, OCC would rely solely on groundwater and recycled water sources upon buildout of the proposed project.

Water supplied by MCWD is connected to three metered points on the OCC campus: a 10-inch reduced-pressure backflow protector (RP) located at the corner of Fairview Road and Merrimac Way, an 8-inch RP at Merrimac Way, and a 6-inch RP at the corner of Fairview Road and Monitor Way. Water is distributed through water lines made of polyvinyl chloride (PVC), transite, or ductile iron, without the use of pumping facilities, storage facilities, or pressure-reducing stations (Goode et al., pers. comm. 2013; OCC 2005). In the 2011–2012 school year, OCC used an average of 144,680 gallons of water per day (100 gallons per minute) (Goode, pers. comm. 2013).

4.13.1.3 Recycled Water

Recycled water accounts for 6% of the water supplied by the MCWD, which is used for irrigation and landscape purposes for various customers in Costa Mesa, including OCC. This water source, which originates as wastewater, receives primary and secondary treatment by the OCSD, is reclaimed by the OCWD, and then is distributed by the MCWD (MCWD 2011).

The OCC Maintenance and Operations Department is responsible for maintenance and operation of the recycled water systems serving the campus. The point of connection of the MCWD recycled water supply to the campus's main distribution line is on Merrimac Way in Parking Lot E (Goode et al., pers. comm. 2013). The main distribution runs north along a 12-inch line parallel to the west border of campus and then, upon reaching Adams Avenue, runs east through the Adams Parking Lot and Parking Lot G. The main distribution line connects to several lines that provide irrigation for the OCC campus and the Coast Community College

District (District) offices (OCC 2005). All recycled water distribution lines are made of PVC (Rivell, pers. comm. 2013).

In the 2011–2012 school year, OCC used an average of 83,268 gallons of recycled water per day (58 gallons per minute) (Goode, pers. comm. 2013).

4.13.1.4 Stormwater

The City is responsible for managing 42 miles of storm drain within the City, which includes storm drains on the periphery of the OCC campus (City of Costa Mesa 2014). Surface water runoff due to storm events or site activities on the OCC campus flows through the storm drain system and is eventually discharged to Upper Newport Bay and the Pacific Ocean. A pair of existing City storm drain trunk lines, a 54-inch-diameter line and a 66-inch-diameter line, run north–south through the campus in a 25-foot-wide easement between the Information Technology Building and the Horticulture Garden Lab. These two storm drains connect to a 6-foot by 10-foot reinforced concrete box culvert on the north side of Adams Avenue (north of campus). They also connect to an existing box culvert at Merrimac Way on the south side of campus (Goode et al., pers. comm. 2013). Drainage of these two pipes flows from south to north. The two pipes are connected at several locations on campus with 12-inch pipes to equalize flow between the storm drains. A portion of the existing campus storm drain system, which generally drains the western third of the campus, connects these two trunk lines at half a dozen locations.

A City-owned 66-inch storm drain line also runs north–south in Fairview Road. On-site storm drains drain the eastern two-thirds of the campus and discharge stormwater runoff to the 66-inch City-owned storm drain line at several locations. Small drainage areas around the periphery of the campus discharge small amounts of runoff to the street.

4.13.1.5 Solid Waste and Recycling

OCC's solid waste stream is managed and hauled by CR&R (Goode et al., pers. comm. 2013). The OCC campus generated approximately 400 tons of solid waste in 2011. Approximately 50% of all waste recovered from District campus locations, which includes OCC, was recycled (CR&R 2012). All of the collected solid waste is transported to either the CR&R material recovery facility (MRF) in Stanton or the San Juan Capistrano MRF, where recyclable and solid waste material is separated. The residual solid waste stream recovered from the Stanton MRF is then transported to the Frank R. Bowerman Landfill in Irvine. Solid waste recovered from the San Juan Capistrano MRF is transported to the Prima Deshecha Landfill in San Juan Capistrano (Jones, pers. comm. 2013). The Frank R. Bowerman landfill permits a maximum of 11,500 tons of waste a day and does not accept public dumping. Prima Deshecha accepts public dumping and permits a maximum of 4,000 tons per day (County of Orange 2013a). Information regarding the Prima Deshecha and Frank R. Bowerman Landfills is presented in Table 4.13-1.

Table 4.13-1
Existing Landfills

Landfill	Remaining Capacity (cubic yards)	Maximum Permitted Capacity (cubic yards)	Estimated Close Date	Maximum Permitted Daily Load (tons/day)	Data Year
Frank R. Bowerman	205 million	266 million	12/31/2053	11,500	2/29/2008
Prima Deshecha	87 million	173 million	12/31/2067	4,000	8/1/2005
Total	**292 million**	**439 million**	**NA**	**15,500**	**NA**

Source: CalRecycle 2008, 2005; County of Orange 2013b.
NA = not applicable

The Recycling Center, located on Adams Avenue, between Harbor Boulevard and Fairview Road, offers recycling services to OCC and residents of Costa Mesa. The center accepts tin and aluminum cans, plastic bottles, glass, scrap metal, paper, old appliances, reusable clothing, e-waste, household batteries, fluorescent light tubes, and used cooking oil (OCC n.d.). The Recycling Center collected 1,653 tons of recyclable material in 2012, including approximately 260 tons of recyclable material from waste generated by OCC (Carey, pers. comm. 2013). Recycled waste generated on campus is stored at the Recycling Center and is hauled and processed by CR&R (Goode et al., pers. comm. 2013).

4.13.1.6 Energy

Electricity

Southern California Edison is the main supplier of electricity to Costa Mesa (City of Costa Mesa 2002). OCC purchases 100% of its energy from Southern California Edison. The main utility service enters the campus from the main switchgear, which is located north of Arlington Drive at the intersection of Fairview Road (OCC 2005). Electrical distribution lines are located underground and are distributed at a medium voltage of 5 kilovolts (Goode et al., pers. comm. 2013; Key, pers. comm. 2013). Based on data from July 2011 to June 2012, the OCC campus used approximately 12,462,205 kilowatt hours of electricity (Goode, pers. comm. 2013).

Natural Gas

Gas service to the campus is provided by Southern California Gas Company through two main points of connection, one of which is located near the Fine Arts Building and Arlington Drive. From this point of connection with the gas company main line, service to the campus is provided through a 6-inch line that runs west along Arlington Drive. The other main point of connection occurs near the Fitness Complex and Monitor Way and runs west along Monitor Way (Goode et al., pers. comm. 2013; OCC 2005). Based on data from July 2011 to June 2012, the OCC campus used approximately 245,356 therms of natural gas (Goode, pers. comm. 2013).

4.13.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Clean Water Act of 1977

Section 401 of the Clean Water Act (CWA) requires that an applicant for any federal permit (e.g., a U.S. Army Corps of Engineers (ACOE) Section 404 permit) obtain certification from the state that the discharge would comply with other provisions of the CWA and with state water quality standards. For example, an applicant for a permit under Section 404 of the CWA must also obtain water quality certification per Section 401 of the CWA. Section 404 requires a permit from the ACOE prior to discharging dredged or fill material into waters of the United States, unless such a discharge is exempt from CWA Section 404.[1] For the project area, the Santa Ana RWQCB must provide the water quality certification required under Section 401 of the CWA. Water quality certification under Section 401, and the associated requirements and terms, is required in order to minimize or eliminate the potential water quality impacts associated with the action(s) requiring a federal permit.

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants from point sources. Section 404 of the CWA established a permit program to regulate the discharge of dredged or fill material into waters of the United States. Section 303 of the CWA requires states to identify surface waters that have been impaired. Under Section 303(d), states, territories, and authorized tribes are required to develop a list of water quality segments that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology (33 U.S.C. Section 1251 et seq.).

State

Protection of Underground Infrastructure

California Government Code, Section 4216 et seq., requires an excavator to contact a regional notification center (e.g., Underground Service Alert (USA) or Dig Alert) at least 2 days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call USA Southern California, the regional notification center for Southern California. USA will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities, once notified, are required to mark the specific locations of their facilities within the work area prior to the start of project activities.

1 The term "waters of the United States" as defined in the Code of Federal Regulations (40 CFR 230.3(s)) includes all navigable waters and their tributaries.

Recycled Water Policy

On January 22, 2013, the California State Water Resources Control Board (SWRCB) adopted a revision of a statewide recycled water policy adopted in 2009, with the ultimate goal of increasing the use of recycled water from municipal wastewater sources. Included in the statewide policy is the mandate to increase the use of recycled water in California from 2002 levels by 1 million acre-feet per year (AFY) by 2020, and an additional 2 million AFY by 2030.The plan also states that the SWRCB expects to increase the use of stormwater from 2007 levels to at least 500,000 AFY by 2020 and 1 million AFY by 2030 (SWRCB 2013).

Porter-Cologne Water Quality Control Act

In the State of California, the SWRCB and nine RWQCBs are responsible for implementing the CWA and the state Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

The Porter-Cologne Act, Section 13000, directs each RWQCB to develop a Water Quality Control Plan (Basin Plan) for all areas within its region. The Basin Plan is the basis for each RWQCB's regulatory programs. The proposed project is located within the purview of the Santa Ana RWQCB (Region 8), and must comply with applicable elements of the region's Basin Plan as well as the Porter-Cologne Act.

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Assembly Bill (AB) 939), administered by the California Integrated Waste Management Board, regulates nonhazardous solid waste. The law provides a solid waste management system to reduce, recycle, and reuse solid waste generated in the state to the maximum extent feasible and in an efficient and cost-effective manner to conserve natural resources, to protect the environment, and to improve landfill safety. Local agencies are required to establish recycling programs, reduce paper waste, purchase recycled products, and implement integrated waste management programs that conform to the state's requirements (California Public Resources Code, Section 40000 et seq.). AB 939 specifically required that each city and county in California divert 25% of its waste stream by 1995 and 50% by 2000 (CalRecycle 1997). The bill also required each state agency to develop and adopt an integrated waste management plan, in consultation with the Waste Management Board, before July 1, 2000.

Senate Bill X7-7

Senate Bill (SB) X7-7, which became effective on February 3, 2010, is the water conservation component to the Delta legislative package (SB 1, Delta Governance / Delta Plan). It seeks to implement water use reduction goals established in 2008 to achieve a 20%

statewide reduction in urban per capita water use by December 31, 2020. The bill requires each urban retail water supplier to develop urban water use targets to help meet the 20% goal by 2020 and an interim 10% goal by 2015. The bill establishes methods for urban retail water suppliers to determine targets to help achieve water reduction targets. The retail water supplier must select one of the four compliance options. The retail agency may choose to comply with SB X7-7 as an individual or as a region in collaboration with other water suppliers. Under the regional compliance option, the retail water supplier still has to report the water use target for its individual service area. The bill also includes reporting requirements in the 2010, 2015, and 2020 Urban Water Management Plans.

State Agency Model Integrated Waste Management Act of 1999

AB 75 was passed in 1999, and the State Agency Model Integrated Waste Management Act (Chapter 764, Statutes of 1999, Strom-Martin) took effect on January 1, 2000. The State Agency Model Integrated Waste Management Act mandated that state agencies develop and implement an integrated waste management plan. The act also mandated that community service districts providing solid waste services report disposal and diversion information to the city, county, or regional agency in which the community service district is located. Provisions of the act require all state agencies and large state facilities to divert at least 50% of solid waste from landfills after 2004 and that each state agency and large facility submit an annual report to the California Department of Resources Recycling and Recovery summarizing its yearly progress in implementing waste diversion programs (CalRecycle 2012).

Energy Conservation Policies

- *Executive Order S-12-04.* This order requests the participation of all state agencies under the authority of the Governor and other entities not under the direct authority of the Governor to institute energy conservation measures that will reduce energy consumption. Additionally, the order requests that all state agencies review and assess energy conservation policies currently in place and expand those measures to all applicable facilities (State of California 2004a).
- *Executive Order S-20-04.* This order requires the state to commit to “aggressive” action to reduce state building energy usage by retrofitting, building, and operating energy and resource efficient buildings, and by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded, or leased by the state. Executive Order S-20-04 requests that California Community Colleges participate in the effort to reduce energy usage (State of California 2004b).
- *State Executive Order S-3-05.* This order directs the state to reduce greenhouse gas emissions, which are linked to energy efficiency (State of California 2005).

Title 24 of the California Code of Regulations

Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in Title 24 guidelines.

Local

MCWD 2010 Urban Water Management Plan

OCC is within the MCWD service area, in which the MCWD uses imported water, groundwater, and recycled water to serve the water needs of the OCC community. The MCWD Urban Water Management Plan was adopted in May of 2011, outlining current water services as of 2010 and future projections for the service area. By law, all water agencies are required to update their Urban Water Management Plan every 5 years (the previous plan was adopted in 2005). Accordingly, the recently adopted 2010 Urban Water Management Plan reflects new development projects and assesses ongoing water supply issues, such as drought. Based on the analysis presented in the plan, the MCWD, drawing from assertions made by the MWD (of which the MCWD is a member agency), confirms that it will have sufficient water supply to meet overall demands within its service area from 2015 through 2035 (MCWD 2011).

Regional Landfill Options for Orange County

The County of Orange (County) Integrated Waste Management Department prepared a long-term plan (County of Orange 2007) to meet the solid waste disposal needs of Orange County residents. This plan specifically discusses the three active landfills within Orange County, which include the Olinda Alpha, Frank R. Bowerman, and Prima Deshecha Landfills, their expected closure dates, and strategies to expand their capacities. Short-term strategies include maximizing operation efficiency through new compacting practices and technology and biocell technology, vertical expansion of the Frank R. Bowerman landfill, vertical and horizontal expansion of the Olinda Alpha Landfill, promoting solid waste diversion, and recycling. Long-term strategies include determining whether there is a need to increase daily permitted waste at the Prima Deshecha Landfill, identifying strategies and technologies to maximize landfill capacities, and conducting a feasibility study of the expansion of the Frank R. Bowerman Landfill. The plan also emphasizes public disclosure and discussion in order to address the community's concerns.

Countywide Drainage Management Plan

Within the purview of the Municipal Separate Storm Sewer System (MS4) permit requirements, the municipalities (permittees) of Orange County have jurisdiction over and/or maintenance responsibility for stormwater conveyance systems that they own. The 2003 Drainage Area Management Plan (DAMP; County of Orange 2003) was developed by the permittees in response to the requirements of the MS4 permit. It contains model programs and guidance for complying with the MS4 permit requirements, including a model water quality management plan for use by each permittee in developing its individual stormwater programs. To describe in detail how the model programs of the 2003 DAMP are being implemented on a local level, each permittee, including the City of Costa Mesa, has adopted a Local Implementation Plan. General Plans, CEQA review processes, and ordinances (water quality, grading, fats/oils/grease) have been adopted and/or updated to meet MS4 permit requirements and establish necessary legal authority. This combination of programs, policies, and legal authority is used to ensure that pollutant loads resulting from urbanization are properly controlled and managed.

City of Costa Mesa 2000 General Plan

The City has prepared a long-term plan that outlines future development goals, objectives, and policies as required by California State Law (Government Code Section 65300). The Conservation Element (City of Costa Mesa 2002) provides objectives in regard to resource conservation, including compliance with the NPDES program and the Countywide DAMP, as well as supporting environmentally sustainable resources for new development and redevelopment projects. The Conservation Element also provides objectives regarding environmental review of development and redevelopment projects' impacts on water supplies and quality and pursuing the use of reclaimed water for open space irrigation. Energy conservation measures include compliance with Title 24 of the California Code of Regulations and the adoption of a citywide Energy Conservation Program. Other policies include the development of a watershed management plan and implementing runoff pollution control measures.

Potable Water

CON-1B.1 Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local water supplies and water quality and an analysis of the impact on water capacity and water availability.

Recycled Water

CON-1B.2 Pursue the use of reclaimed wastewater for the irrigation of all appropriate open space facilities and require new developments and City projects, and encourage existing developments to tie into the reclaimed water system when recommended by the Orange County Water District, Mesa Consolidated Water District, or Irvine Ranch Water District.

Stormwater

CON-1A.3 Continue to comply with the National Pollutant Discharge Elimination System (NPDES) Program by participating in the Countywide Drainage Area Management Plan (DAMP) which stipulates water quality requirements for minimizing urban runoff and discharge from new development and requires the provisions of applicable Best Management Practices (BMP).

CON-1A.4 Continue to implement the Drainage Area Management Plan (DAMP), and any amendments to it, that require site dischargers to reduce pollutants in runoff from new development and significant redevelopment areas.

CON-1E.2 Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local and regional air and water quality.

CON-1E.5 Implement urban runoff pollution control measures and programs to attempt to reduce and control the discharge of pollutants into storm drains to the maximum extent practicable.

CON-1E.6 Reduce the quantity of runoff and discharge of pollutants to the maximum extent practicable by integrating surface runoff controls into new development and redevelopment land use decisions.

CON-1E.10 Minimize particulate matter pollution through control over construction projects subject to the NPDES Stormwater Permit (including erosion and sediment controls on grading, quarrying, vegetation removal, construction and demolition), industrial processes, parking lots, and other activities that pose such a water quality threat.

CON-1E.12 Ensure that new development/significant redevelopment projects subject to the NPDES Stormwater Permit incorporate, to the maximum extent practicable, measures that reduce the quantity of storm flow and the discharge of pollutants in urban/storm water runoff to protect water quality, biological habitats, and recreational uses of downstream receiving water bodies.

CON-1E.13 Ensure that future land development/redevelopment projects subject to the NPDES Stormwater Permit adhere to the design standards set forth in the current Drainage Area Management Plan (DAMP) and the City's Local Implementation Plan.

Energy

CON-1A.6 Support environmentally acceptable and sustainable energy sources (especially renewable resources such as solar, wind, hydroelectric, and geothermal resources) for new development and significant redevelopment projects.

CON-1C.2 Apply the standards contained in Title 24 of the California Code of Regulations as applicable to the construction of all new dwelling units (City of Costa Mesa 2002).

City of Costa Mesa Municipal Code

The Costa Mesa Municipal Code, Title 8, Health and Sanitation, Chapter 3, NPDES and DAMP Regulations, defines specific requirements for new development and significant redevelopment projects as well as BMPs to be applied during a construction project (City of Costa Mesa 1997). Specifically, the water quality ordinance requires all new development and significant redevelopment within the City to be undertaken in accordance with the Orange County DAMP. The Municipal Code defines new development as all public and private residential, industrial, commercial, retail, and other nonresidential construction projects, or grading for future construction, for which a discretionary land use approval, grading permit, building permit, or nonresidential plumbing permit is required. The Municipal Code defines significant redevelopment as the rehabilitation or reconstruction of public or private residential (whether single-family, multiple-unit, or planned unit development), industrial, commercial, retail, or other nonresidential structures for which a discretionary land use approval, grading permit, building permit, or nonresidential plumbing permit is required.

Prior to the issuance by the City of a grading permit, building permit, or nonresidential plumbing permit for any new development or significant redevelopment, the development services department and the public services department shall review the project plans and impose terms, conditions, and requirements on the project. Development and implementation of a water quality management plan following Costa Mesa Municipal Code regulations is required during the entirety of a project.

The Costa Mesa Municipal Code, Title 8, Health and Sanitation, Chapter 4 specifies the requirements for the handling and the collection of solid waste and recycling materials (City of Costa Mesa 1993).

4.13.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to utilities and service systems are based on Appendix G of the Guidelines for Implementation of the California Environmental Quality Act

(CEQA Guidelines; 14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to utilities and service systems would occur if the project would:

1. ***Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.***
2. ***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.***
3. ***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.***
4. ***Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.***
5. ***Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.***
6. ***Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.***
7. ***Comply with federal, state, and local statutes and regulations related to solid waste.***

Appendix G of the CEQA Guidelines does not contain significance thresholds related to energy, so Appendix F, Energy Conservation, was used as guidance. For the purposes of this analysis, the following threshold was utilized. A significant impact related to utilities and service systems would occur if the project would:

8. ***Result in potentially significant energy impacts due to the use of:***
   a. ***Excessive amounts of fuel or energy (i.e., natural gas).***
   b. ***Excessive amounts of power.***

No topics related to utilities and service systems were eliminated in the Initial Study; therefore, all topics are covered in the impacts analysis.

4.13.4 Impacts Analysis

Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The CMSD provides sewer waste collection for the majority of Costa Mesa, including the OCC campus (City of Costa Mesa 2002). Wastewater collected by the CMSD is treated by the OCSD

(City of Costa Mesa 2002). The OCSD is the NPDES permit holder for the Fountain Valley Reclamation Plant No. 1 and Huntington Beach Treatment Plant No. 2, and it is responsible for compliance with the wastewater treatment requirements in the NPDES permit, Order No. R8-2012-0035/CA0110604 (Santa Ana RWQCB 2012). Upon connection to CMSD facilities, the proposed project would be in compliance with the wastewater treatment requirements of the RWQCB. Therefore, the proposed project would not exceed the wastewater treatment requirements of the applicable RWQCB, and impacts would be less than significant.

Would the project 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?

Wastewater

As discussed in Section 4.13.1.1, Wastewater, three main private sewer lines, maintained by OCC, are currently in operation on campus. These private sewer lines are connected to lines maintained by the CMSD, and effluent is treated by the OCSD treatment plants in Huntington Beach and Fountain Valley (City of Costa Mesa 2002).

The OCSD treatment plants have a combined primary treatment capacity of 372 MGD, and are currently processing approximately 201 MGD (OCSD 2009, 2012). Plant No. 1, located in Fountain Valley, has a primary capacity of 204 MGD and treats water later to be reclaimed by the OCWD for landscape irrigation use and groundwater replenishment. To avoid overloading Plant No. 1 capacity, wastewater can also be diverted to Plant No. 2, in Huntington Beach, where effluents are mixed, dechlorinated with sodium bisulfite, and disposed of in the ocean (OCSD 2011).

The proposed project would generate additional wastewater discharges by adding additional residents; additional academic, general administrative, and auxiliary space; and a general increase in the number of students. The student housing project would generate the greatest amounts of wastewater on campus, with the addition of 800 student resident beds, and 17 resident advisor and 1 professional staff apartment units. This additional wastewater flow would result in an increased demand on the local wastewater treatment infrastructure. According to Table 4.13-2, Projected Increase in Wastewater Generation, the proposed project is anticipated to generate an increase of 117,262 gallons per day of wastewater.

Table 4.13-2
Projected Increase in Wastewater Generation

Campus Land Use	Projected Land Use ASF Net Increase	Land Use Flow Coefficients (gpd/sq ft)[a]	Projected Increase in Wastewater Generation (gpd)
Academic	69,212	0.115	7,959
General Administrative	81,842	0.115	9,412
Auxiliary	656,938	0.115	75,548
Recreational	0	0.005	0
Residential	229,650	0.106	24,343
Total	**1,037,642**	**NA**	**117,262**

Sources: Farrow, pers. comm. 2014; OCLAFC 2007.

[a] Based on the Costa Mesa Sanitary District Land Use Flow Coefficients provided in OCLAFC 2007. Where commercial land uses generate 5,000 gallons per day/acre; parks, recreation, and golf course land uses generate 200 gallons per day/acre; and high-density residential land uses generate 4,625 gallons per day/acre. These flow coefficients were converted to gallons per day per square foot (1 acre = 43,560 square feet), provided that projected land use sizes were given in assignable square feet. Academic, general administrative, and auxiliary land use generation rates were approximated using commercial land use flow coefficients.

gpd = gallons per day; ASF = assignable square feet; sq ft = square foot; NA = not applicable

According to the Orange County Local Agency Formation Commission's Municipal Service Review and Sphere of Influence Study for the CMSD, the service area for the CMSD should have a population of 125,952 by 2020. It was also anticipated that the CMSD would have a service population of 117,492 for the Year 2010 (OCLAFC 2007).Therefore, the CMSD service population is anticipated to grow by 8,460 from the year 2010 to 2020. The student housing project would accommodate approximately 800 students and provide dwelling units for 18 live-in staff members. The 818 residents associated with the student housing project would be consistent with the population growth anticipated for the CMSD service area. The proposed project would also result in an increase in student enrollment. The CMSD service population projections do not include projections associated with the amount of commercial users in the service area, which would correspond to an overall increase in student enrollment. However, OCC anticipates a student enrollment growth of 6,922 from the year 2012 to 2020. This overall student growth would be consistent with the anticipated CMSD service area population increase and therefore the proposed project would be consistent with the projections considered in the CMSD's plans for service.

Provided that the OCSD treatment plants have the capacity to process 372 MGD and are currently processing 201 MGD, the increase in demand created by the proposed project would be relatively minor in the context of the overall treatment capacity of the OCSD. To ensure the existing sewer lines have the capacity and are in good enough condition to handle the increase in wastewater flow, mitigation measure MM-UTL-1 shall be implemented. Implementation of MM-UTL-1 would minimize potentially significant impacts to the existing sewer systems to a level that is less than significant.

Potable Water

The water needs of the proposed project would be met by the MCWD. According to the MCWD 2010 Urban Water Management Plan, water demand is expected to increase from 19,400 AFY for the Year 2010 to 19,700 AFY for the Year 2015 and remain constant at 19,700 AFY through 2035. Water supply for the Year 2010 was composed of 82% local groundwater, 12% imported water, and 6% recycled water sources. For the Year 2015 and beyond, water supply is projected to be composed of 94% local groundwater and 6% recycled water—no imported water is anticipated to be purchased for 2015 through 2035 (MCWD 2011). Therefore, OCC would rely solely on groundwater and recycled water sources upon buildout of the proposed project.

The OCWD has been the primary agency managing the groundwater basin since 1933. The OCWD works collaboratively with the MWD and other local water districts such as the MCWD to implement a comprehensive program to manage the groundwater basin to ensure a safe and sustainable supply. The Groundwater Management Plan 2009 Update documents the objectives, operations, and programs aimed at accomplishing the MCWD's mission (MCWD 2011, Appendix B). Because the MCWD already serves an estimated 111,166 customers in an area that is largely (although not completely) built out, any increase in demand resulting from the proposed project—when taken in the context of total water deliveries and the active management of the basin by the OCWD—would be relatively minor and incremental in nature. Furthermore, the MCWD has designed its recently built colored water treatment plant for future expansion. Because the OCWD encourages the pumping of groundwater that does not meet drinking water standards in order to protect water quality, use of the water from the lower aquifer does not count against its basin production percentage goals (this is also known as a Basin Equity Assessment Exemption).

Nevertheless, to the extent the proposed project generates additional water demand, it could also result in an increase in the use of groundwater. The most substantial increase in water demand resulting from the proposed project will likely occur following occupancy of the student housing project. Additional facilities besides the student housing project that are also expected to be water intensive include the Adaptive Physical Education, Gymnasium, Pool Facilities, and District Office. Other program- and project-level components of the proposed project, while less water-demanding, will still entail incremental increases in water demands associated with maintenance, landscaping, and restroom facilities necessary to accommodate the anticipated increased enrollment of approximately 6,922 students by 2020. The OCWD would require approval of all water utility connections proposed by OCC.

In the 2011–2012 school year, OCC used approximately 170 acre-feet of potable water (Goode, pers. comm. 2013). According to the 2010 Urban Water Management Plan prepared by the MCWD (2011), the water district has supplied 15,900 AFY of groundwater to customers, making OCC's usage about 1% of the total groundwater supplied by the MCWD (assuming that all water all is derived from groundwater). Compared to the annual groundwater production within the Orange County Groundwater Basin as a whole (roughly 500,000 AFY), the increase in demand as a result of the proposed project would be negligible, and would be far less than the variation in demand due to climatic conditions (MCWD 2011). As a point of comparison, in 1998, the volume of storage of freshwater within the basin amounted to 37,700,000 acre-feet (DWR 2004).

In addition, growth associated with the student housing project would be consistent with MCWD planning projections. As stated in the MCWD 2010 Urban Water Management Plan, the Center for Demographic Research at California State University Fullerton projects that housing in the Costa Mesa area will increase from 41,262 to 44,486 dwelling units from 2010 to 2020. The number of single units is expected to increase from 19,393 to 20,908 (7.8%) and multiple-family units are expected to increase from 21,869 units to 23,578 (7.8%) by 2020. The service area for the MCWD is considered low growth, as most of the area has been developed (MCWD 2011). Minimal development and population growth is anticipated for the MCWD's service area and water demand is not anticipated to increase from 2015 through 2035. Upon buildout of the student housing project, 818 beds would be added to the OCC campus. The student housing dwelling units would be in a category most similar to the multiple-family units discussed in the MCWD 2010 Urban Water Management Plan, considering they would have a higher density of residents to square footage than a single-family unit. The development of 818 beds on the OCC campus would not exceed the 1,709 multiple-family units projected to be built out in the 2010 Urban Water Management Plan.

Considering that the increase in demand as a result of the proposed project would be negligible compared to the annual groundwater production within the Orange County Groundwater Basin as a whole (roughly 500,000 AFY) and the proposed project would be consistent with projections provided in the MCWD 2010 Urban Water Management Plan, the proposed project would not create potable water demand that would necessitate the construction or expansion of new water facilities. In addition, implementation of mitigation measure MM-HYD-4 (see Section 4.8.5) would ensure that water is not used in a wasteful manner, which would also further ensure that impacts relating to the construction of new water treatment facilities or expansion of existing facilities would be less than significant with mitigation.

Would the project 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?

As discussed in Section 4.8, Hydrology and Water Quality, there are approximately 119 impervious acres and 44 pervious acres on site, which means that impervious surfaces such as structures, paved walkways, and parking lots currently make up approximately 73% of the campus, with the rest consisting of landscaped areas and/or vacant lots. Much of the new construction and land uses proposed would occur on previously paved surfaces, such as parking lots, walkways, and within the footprint of demolished facilities. Proposed construction would not substantially change the amount or distribution of impervious surfaces on campus. Some of the campus parking (such as Lot D and portions of Lot A), rather than being spread out over paved surface lots, would be consolidated within a new parking structure on the Adams Lot. Certain proposed facilities could increase the amount of impervious surfaces relative to existing conditions because their proposed footprints include areas that are currently pervious (i.e., undeveloped/bare ground)—these facilities include the student housing project, the Language Arts and Social Sciences Building, and the Recycling Center Expansion.

Because many of the facilities in the Vision 2020 Facilities Master Plan are in the initial planning stages (i.e., no detailed layout or designs are available), the increase or decrease in impervious surfaces that would occur campus-wide as a result cannot be quantified at this time. However, because the campus is already largely built out, is located on level topography, and is surrounded by urban land uses, the proposed project is not anticipated to substantially modify existing topography, drainage-shed boundaries, or runoff rates/patterns. Furthermore, the proposed project generally seeks to accommodate growth in student enrollment by building up and not out. Generalized footprints for the proposed construction, renovation, and demolition of facilities (see Figures 3-4 and 3-6) indicate that increases in impervious surfaces due to specific facilities (such as the student housing project) will be at least partially counterbalanced by decreases in impervious surfaces due to consolidation of parking spaces into the new four-level garage and the demolition of buildings throughout the campus. The proposed project could slightly modify existing topography, drainage-shed boundaries, or runoff rates/patterns; however, changes would be minor and would not require the expansion of stormwater drainage facilities or construction of new facilities. Therefore, impacts would be less than significant.

Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

As previously discussed, the water needs of the proposed project would be met by the MCWD. The MCWD Urban Water Management Plan, adopted in May 2011, outlines current water services as of 2010 and future projections for the service area. The 2010 Urban Water Management Plan reflects new development projects and assesses ongoing water supply issues, such as drought. Based on the analysis presented in the plan, the MCWD has confirmed that it will have sufficient water supply to meet overall demands through 2035 (MCWD 2011). For the year 2015 and beyond, water supply is projected to be composed of 94% local groundwater and 6% recycled water—no imported water is anticipated to be purchased for 2015 through 2035 (MCWD 2011). Therefore, OCC would rely solely on groundwater and recycled water sources upon buildout of the proposed project.

The OCWD has been the primary agency managing the groundwater basin since 1933. The OCWD works collaboratively with the MWD and other local water districts such as the MCWD to implement a comprehensive program to manage the groundwater basin to ensure a safe and sustainable supply. The Groundwater Management Plan 2009 Update documents the objectives, operations, and programs aimed at accomplishing the OCWD's mission (MCWD 2011, Appendix B). Because the MCWD already serves an estimated 111,166 customers in an area that is largely (although not completely) built out, any increase in demand resulting from the proposed project—when taken in the context of total water deliveries and the active management of the basin by the OCWD—would be relatively minor and incremental in nature.

Nevertheless, to the extent the proposed project generates additional water demand, it could also result in an increase in the use of groundwater. The most substantial increase in water demand resulting from the proposed project will likely occur following occupancy of the student housing project. Additional facilities besides the student housing project that are also expected to be water intensive include the Adaptive Physical Education, Gymnasium, Pool Facilities, and District Office. Other program- and project-level components of the proposed project, while less water-demanding, will still entail incremental increases in water demands associated with maintenance, landscaping, and restroom facilities necessary to accommodate the anticipated increased enrollment of approximately 6,922 students by 2020. The OCWD would require approval of all water utility connections proposed by OCC.

As discussed previously, compared to the annual groundwater production within the Orange County Groundwater Basin as a whole (roughly 500,000 AFY), the increase in demand as a result of the proposed project would be negligible, and would be far less than the variation in demand due to climatic conditions (MCWD 2011). A water service agreement and, if required, payment of impact fees to the MCWD would be required prior to initiating new water connections. In addition, growth associated with the student housing project would be consistent with the MCWD's planning projections.

OCC utilizes reclaimed water for irrigation of campus recreational fields and landscapes, thus dramatically reducing campus potable water demand for irrigation purposes. Due to available reclaimed water resources for irrigation, impacts relative to potable water demand for outdoor irrigation would be less than significant.

Considering that the increase in demand as a result of the proposed project would be negligible compared to the annual groundwater production within the Orange County Groundwater Basin as a whole and the proposed project would be consistent with projections provided in the MCWD 2010 Urban Water Management Plan, which has confirmed that it will have sufficient water supply to meet overall demands through 2035 (MCWD 2011), the proposed project would have sufficient water supplies available to serve the project from existing entitlements and resources, and no new or expanded entitlements would be needed. In addition, implementation of MM-HYD-4 would ensure that water is not used in a wasteful manner, which would also further ensure that impacts relating to water supplies would be less than significant with mitigation.

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

The proposed project would generate additional wastewater discharges by adding additional residents; additional academic, general administrative, and auxiliary space; additional parking facilities; and a general increase in the number of campus students. The student housing project would generate the most substantial amounts of wastewater on campus, with the addition of 800 student resident beds, and 17 resident advisor and 1 professional staff apartment units. This additional wastewater flow would result in an increased demand on the local wastewater treatment infrastructure. As indicated in Table 4.13-2, Projected Increase in Wastewater Generation, the proposed project is anticipated to generate an increase of 117,262 gallons per day of wastewater.

According to the Orange County Local Agency Formation Commission's Municipal Service Review and Sphere of Influence Study for the CMSD, the service area for the CMSD should have a population of 125,952 by 2020. It was also anticipated that the CMSD would have a service population of 117,492 for the Year 2010 (OCLAFC 2007).Therefore, the CMSD service population is anticipated to grow by 8,460 from the year 2010 to 2020. The student housing project would accommodate approximately 800 students and provide dwelling units for 18 live-in staff members. The 818 residents associated with the student housing project would be consistent with the population growth anticipated for the CMSD service area. The proposed project would also result in an increase in student enrollment. The CMSD service population projections do not include projections associated with the amount of commercial users in the service area, which would correspond to an overall increase in student enrollment. However, OCC anticipates a student enrollment growth of 6,922 from the year 2012 to 2020. This overall student growth would be consistent with the anticipated CMSD service area population increase, and therefore the proposed project would be consistent with the projections considered in the CMSD's plans for service.

Provided that the OCSD treatment plants have the capacity to process 372 MGD and are currently processing 201 MGD, the increase in demand created by the proposed project would be relatively minor in the context of the overall treatment capacity of the OCSD. To ensure the existing sewer lines have the capacity and are in good enough condition to handle the increase in wastewater flow, mitigation measure MM-UTL-1 shall be implemented. Implementation of MM-UTL-1 would minimize potentially significant impacts to the existing sewer systems to a level that is less than significant.

Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Construction of the proposed project would generate construction waste (e.g., concrete rubble, asphalt rubble, wood, drywall) that would result in an increased demand for solid waste collection and disposal capacity. The County of Orange Waste & Recycling will require the completion and submittal of a construction and demolition waste reduction and recycling application to the County for approval prior to issuance of the final Certificate of Occupancy permit for the site, which is therefore included as MM-UTL-2. The construction and demolition waste reduction and recycling application will identify and estimate the materials to be recycled during construction and demolition activities and will name the County-approved facility used to recycle the waste. A construction and demolition waste reduction and recycling application that demonstrates that the project recycled a minimum of 50% of its construction and demolition waste will then be approved by the County of Orange Planning prior to issuance of the final Certificate of Occupancy permit (County of Orange 2014).

The OCC campus generated approximately 400 tons of solid waste in 2011 and approximately 50% of all waste recovered from District campus locations, which includes OCC, was recycled. It is therefore assumed that at least 50% of the waste generated by OCC was recyclable material and solid waste generation can be approximated as 200 tons for the Year 2011 (CR&R 2012). In addition, the Recycling Center collected approximately 260 tons of recyclable material from waste generated by OCC for the year 2012 (Carey, pers. comm. 2014), which was hauled and processed by CR&R (Goode et al., pers. comm. 2013).

Table 4.13-3, Existing and Projected Solid Waste Generation, shows that by 2024 an additional 118 tons of solid waste would be generated, resulting in a total campus generation amount of 318 tons per year (tpy).

Table 4.13-3
Existing and Projected Solid Waste Generation (tpy)

Existing Campus Facilities (ASF)	Existing Solid Waste Generation (tpy)	Solid Waste Generation Rate (per 10,000 ASF)	Net Increase in ASF[a]	Total Projected Increased Solid Waste Generation (tpy)
651,951	200	3.07	385,691	118

Sources: District 2011 (Existing Campus Facilities (ASF)); Carey, pers. comm. 2013 (Existing Solid Waste Generation (tpy)).
Note: Solid Waste Generation per 10,000 square feet: 200/651,951×10,000.
[a] Upon buildout of the proposed project, the campus will have 1,037,642 ASF of academic, general administrative, residential, and auxiliary space in addition to the existing square footages on campus. Net Increase = 1,037,642 ASF − 651,951 ASF = 385,691 ASF.
tpy = tons per year; ASF = assignable square feet

It is anticipated that the proposed project's solid waste disposal needs would continue to be served by CR&R and all solid waste generated on campus would continue to be transported to the Stanton or San Juan Capistrano MRF. The residual solid waste stream recovered from the Stanton MRF is then transported to the Frank R. Bowerman Landfill. Solid waste recovered from the San Juan Capistrano MRF is transported to the Prima Deshecha Landfill (Jones, pers. comm. 2013). The most substantial increase in solid waste generation resulting from the proposed project will likely occur following occupancy of the student housing project, which will accommodate approximately 800 students and dwelling units for 18 live-in staff members. The solid waste generation associated with the student housing project are not accounted for in the projections provided in Table 4.13-3.

Consistent with the campus's ongoing recycling programs, all recyclable materials generated as a result of construction/demolition, proposed project operation, and operation of the Recycling Center would continue to be sent to the Stanton and San Juan Capistrano MRFs. If a conservative recycling rate of 50% is assumed, then the proposed project would send approximately 0.9 ton per day to an area landfill. These amounts represent approximately 0.008% and 0.02% of the total maximum permitted capacity (15,500 tons/day) of the two local landfills listed in Table 4.13-1. These percentages are not anticipated to substantially increase, although the projections in Table 4.13-3 do not reflect the waste generated by the student housing project. Therefore, the amount of solid waste generated and disposed of in nearby landfills during operation of the proposed project is expected to be within the permitted capacity of the landfills. Given these considerations, and with recycling required by the County of Orange implemented during all construction phases of the project with the incorporation of MM-UTL-2, potential impacts associated with solid waste capacity would be considered less than significant with mitigation incorporated.

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

All of the District campuses, including OCC, typically divert over 50% of their solid waste to a licensed recycling facility. Solid waste generated from construction and operation of the proposed project would be consistent with the campus's ongoing recycling programs, which historically have been successful at diverting at least 50% of on-campus-generated solid waste from a landfill to an appropriate recycling facility. Maintaining the existing diversion rate would ensure compliance with AB 75, which requires all large state facilities to divert at least 50% of solid waste from landfills. Therefore, a less-than-significant impact to solid waste policies and programs would occur.

Would the project result in potentially significant energy impacts due to the use of:

- ***i) Excessive amounts of fuel or energy (i.e., natural gas)?***
- ii) ***Excessive amounts of power?***

The proposed project would create additional electricity and natural gas demand by adding additional residents; additional academic, general administrative, and auxiliary space; additional parking facilities; and a general increase in the number of students. The student housing project would create the most substantial amounts of energy demand on campus, with the addition of 800 student resident beds, and 17 resident advisor and 1 professional staff apartment units.

The proposed project would involve the demolition of 200,900 ASF of existing facilities on campus. The proposed project would replace these existing facilities with more energy-efficient buildings. New facilities associated with the proposed project would be subject to the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. These building efficiency standards would be enforced through the local building permit process.

Based on data from July 2011 to June 2012, OCC used approximately 12,462,205 kilowatt hours of electricity and approximately 245,356 therms of natural gas (Goode, pers. comm. 2013). Building electricity and natural gas usage associated with the proposed project were calculated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2 (available online at www.caleemod.com). CalEEMod default values for indoor and outdoor water use, solid waste generation, and electricity and natural gas consumption (through Title 24, non-Title 24, and lighting energy intensities and Title 24 and non-Title 24 natural gas energy intensities) were used for the new facilities constructed as part of the proposed project. Default values for electricity and natural gas consumption through Title 24 and non-Title 24 natural gas energy intensities and Title 24, non-Title 24, and lighting energy intensities were adjusted to reflect historical energy use of existing facilities.

Once operational, the proposed project would result in the use of approximately 16,601,359 kwh of electricity (8,375,439 kwh associated with new facilities and 8,225,920 kwh associated with existing facilities) and 298,077 therms of natural gas (124,471 therms associated with new facilities and 173,606 therms associated with existing facilities) per year. The proposed project would increase electricity and natural gas demand by 24.9% and 17.7%, respectively.

A Solar Photovoltaic (PV) Panel Carport System to be installed on campus, which was approved under a Notice of Exemption, would provide an additional energy source to the campus. According to the National Renewable Energy Laboratory PVWatts Calculator, the Solar PV Panel Carport System would generate approximately 4,963,313 kwh of energy per year (NREL 2015). PVWatts default values were used. This additional energy source was provided as energy mitigation in CalEEMod, and would provide 30% of the campus's energy requirements. The proposed project would not result in the excessive use of fuel or energy, or in excessive amounts of power; therefore, impacts would be less than significant.

4.13.5 Mitigation Measures

The following mitigation measures are recommended to reduce impacts related to solid waste and water conservation discussed above. Because impacts to other utilities and service systems as a result of the project are found to be less than significant, no additional mitigation measures are necessary.

MM-UTL-1 Upon review of the final site engineering and design plans, the Coast Community College District (District) will coordinate with the Costa Mesa Sanitary District (CMSD) to determine whether the existing sewer lines have the capacity and are in good enough condition to handle the increase in wastewater flow. Prior to occupancy of the Orange Coast College (OCC) Vision 2020 Master Plan (proposed project) facilities**,** the District shall pay applicable Costa Mesa Sanitary District sewer infrastructure connection fees and applicable fair-share capital facilities fees, to the extent the payment of such fees is made necessary by the proposed project facilities.

MM-UTL-2 Prior to issuance of the final Certificate of Occupancy permit, the Coast Community College District (District) shall complete a construction and demolition waste reduction and recycling application and submit the application to the County of Orange (County) Waste & Recycling for approval. The construction and demolition waste reduction and recycling application will identify and estimate the materials to be recycled during construction and demolition activities and will name the County-approved facility used to recycle the waste. Compliance with the plan will be a requirement in all construction contracts. The County-approved application will be attached to all construction plans and distributed to all construction contractors. Once construction is complete, the District will be responsible for preparing a tonnage report that demonstrates that the project recycled a minimum of 50% of its construction and demolition waste. The tonnage report must be submitted to and approved by the County prior to issuance of the final Certificate of Occupancy permit. Since this proposed project will be developed in phases over time, review and approval of the construction and demolition waste reduction and recycling application can be submitted by phase or building. However, for each demolition waste reduction and recycling application submitted and approved, a corresponding tonnage report should also then be submitted for approval.

MM-HYD-4 See Section 4.8.5.

4.13.6 Level of Significance After Mitigation

Implementation of mitigation provided in MM-UTL-1, MM-UTL-2, and MM-HYD-4 would ensure that all impacts identified would be reduced to a less-than-significant level.

4.13.7 Cumulative Impacts

Section 15130(b)(1)(A) of the CEQA Guidelines (14 CCR 15130(b)(1)(A)) allows for the preparation of a list of past, present, and reasonably anticipated future projects as a viable method of determining cumulative impacts. This discussion uses the following approach: an initial list and description of all related projects is presented, followed by a discussion of the effects that the project may have on each environmental category of concern. Consistent with CEQA (California Public Resources Code, Section 21000 et seq.), this discussion is guided by the standards of practicality and reasonableness.

This section of the analysis provides a list of past, present, and reasonably foreseeable future projects that the City determined were most relevant to the project. Several development proposals and City projects near the project have been submitted for consideration or have been recently approved that together with the project may result in an increase in environmental impacts. Table 4.13-4 presents development proposals within the City. The projects listed in Table 4.13-4 serve as the foundation on which the cumulative analysis approach has been based.

Table 4.13-4
Cumulative Projects

Project/Description	Address/Location	Phase/Estimated Buildout
Approved Projects		
Senior housing residence – 224 units	1500 Mesa Verde Drive	Under construction Estimated buildout early 2015
Residential – apartment – 113 units	421 Bernard Street	Under construction Estimated buildout early 2015
Walgreens – 14,310 square feet	1726 Superior Avenue	Demolition complete Estimated buildout early 2015
Projects in Review		
Commercial/residential mixed-use development – 36 units	2025 Placentia Avenue	In review
Residential – apartment – 240 units	125 Baker Street	In review
Commercial/residential mixed-use development – 89 units	1620 Whittier Avenue	In review
Medium/high-density residential – 37 units	573 Victoria Street	In review

Table 4.13-4
Cumulative Projects

Project/Description	Address/Location	Phase/Estimated Buildout
Commercial/residential mixed-use development – 30 units	372 Victoria Street	N/A
Commercial/residential mixed-use development – 14 units	2075 Placentia Avenue	N/A

Source: Ashabi, pers. comm. 2013; LLG 2015.
Note: N/A = Not Available

The geographic extent for the analysis of cumulative impacts associated with utilities consists of the immediate surrounding area, because utilities are provided by local jurisdictions or districts.

Because of the cumulative nature of potable water and groundwater impacts—meaning that all urban growth and development relying on the Orange County Groundwater Basin would demand water—the project's increase in demand on groundwater, even if individually minor, could be cumulatively considerable, particularly in the context of climate change, existing drought conditions, and the trend toward increased reliance on local supplies. Implementation of MM-HYD-4 would ensure that water is not used in a wasteful manner, which would also further ensure that the contribution to cumulative impacts on groundwater volume and levels would be less than significant with mitigation.

The proposed project will connect to the existing stormwater system. As discussed in Section 4.13-4, the proposed project could slightly modify existing topography, drainage-shed boundaries, or runoff rates/patterns; however, changes would be minor and would not require the expansion or construction of new stormwater drainage facilities. Other projects within the vicinity of the projects would need to be evaluated on an individual basis in regard to stormwater drainage facilities. There are existing stormwater conveyance facilities in the area, and combined with other projects, the proposed project is not expected to cause a significant impact related to stormwater runoff since all projects would be designed to meet stormwater capacity. The proposed project would not substantially change total surface runoff and would not combine with surrounding projects to contribute to significant cumulative impacts; therefore, cumulative impacts would be less than significant.

The proposed project would have less-than-significant impacts with regard to wastewater treatment facilities, the expansion of existing facilities, and the capacity of wastewater treatment providers, upon implementation of MM-UTL-1. All foreseeable projects would need to evaluate their wastewater generation prior to development, and upon review of the final site engineering and design plans would be required to coordinate with the CMSD or the applicable sewer system jurisdiction. During this time it would be determined whether the existing sewer lines within the vicinity have the capacity and are in good enough condition to handle any anticipated increase in wastewater flow. A service agreement and, if required, payment of impact fees would be required prior to initiating new sewer connections. Considering that the proposed project and additional projects in the vicinity would be subject to these requirements, cumulative impacts would be less than significant.

Implementation of MM-UTL-2 would ensure that prior to the final Certificate of Occupancy permit issuance, a construction and demolition waste reduction and recycling application and tonnage report would be submitted to the County of Orange for review and approval by the proposed project (County of Orange 2014). The amount of solid waste generated and disposed of in nearby landfills during operation of the proposed project is expected to be within the permitted capacity of the landfills, as discussed in Section 4.13-4. In addition, all foreseeable projects would need to submit this information and evaluate the project's anticipated solid waste generation prior to development, and cumulative impacts would be considered in relation to landfill capacity. As such, cumulative impacts to landfill capacity would be less than significant.

The proposed project would have less-than-significant impacts with regard to energy. In addition, new facilities associated with all foreseeable projects would be subject to the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. These building efficiency standards would be enforced through the local building permit process. Therefore, the proposed project would not combine with projects in the vicinity to result in cumulatively considerable impacts, and cumulative impacts would be less than significant.

4.13.8 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

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CHAPTER 5
OTHER CEQA CONSIDERATIONS

This chapter includes the following other considerations that are required in an Environmental Impact Report (EIR):

- Significant and Unavoidable Environmental Impacts (Section 5.1)
- Significant and Irreversible Environmental Effects (Section 5.2)
- Growth Inducement (Section 5.3)
- Effects Found Not to Be Significant (5.4).

5.1 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

Implementation of the project-specific mitigation measures identified in the Chapter 4 analysis would reduce all significant impacts to below a level of significance, with the exception of the significant impact due to the loss of historical resources. The substantial demolition of the buildings, structures, objects, features, and landscape elements that comprise the Orange Coast College (OCC) Historic District would result in a substantial adverse change to the historic property (the historic district) and the environment. Alternatives which preserved the historical resources did not meet the District and Orange Coast College Facilities Master Plan and educational master plan, or educational and student service program needs. Nevertheless, the measures outlined for documentation of the historic district, the salvage and reuse of significant character-defining features, and the development of an interpretive educational program are important to ensure that information regarding the historical development of the college campus, its association with master architect Richard Neutra, and its physical manifestation of Modern style educational facilities are documented, retained, and archived. The impact to the OCC Historic District cannot be mitigated to a less-than-significant level. Impacts would remain significant and unavoidable.

5.2 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL EFFECTS

California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) mandate that an EIR must address any significant irreversible environmental changes that would result from the proposed project should it be implemented. An impact would fall into this category if:

- The project would involve a large commitment of nonrenewable resources
- The primary and secondary impacts of the project would generally commit future generations of people to similar uses

- The project involves uses in which irreversible damage could result
- The proposed consumption of resources is not justified (e.g., the project results in wasteful use of energy) (14 CCR 15126(c)).

Determining whether the proposed project may result in significant and irreversible effects requires a determination of whether key resources would be degraded or destroyed in such a way that there would be little possibility of restoring them.

Intensification of Land Use

As a result of implementation of the proposed OCC Vision 2020 Facilities Master Plan (proposed project), some of the existing structures on the OCC campus would be demolished, renovated, vacated, and/or relocated to permit the redevelopment/construction of more intensive land uses, student housing, academic programs, and student services. Redevelopment of the campus to accommodate these more intensive land uses would result in further urbanization of the area and would represent a long-term commitment to an increasingly dense urban environment. Part of the proposed project is to improve integration of land use and functional use of space within the OCC campus, as well as to accommodate future growth. The conversion to more intense land uses would not constitute the commitment of a “nonrenewable resource” as described in Section 15126.2(c) of the CEQA Guidelines because the intensification of land uses on the campus would also lead to more opportunities for pedestrians to walk between adjacent uses on campus. The proposed student housing project also presents an opportunity for students to live on campus and attend classes without getting into their vehicles.

Future Similar Uses

Facilities and improvements developed under the proposed project can be expected to have a life span of approximately 50 to 70 years. Future generations would likely continue to use OCC for educational and community purposes. Therefore, primary and secondary impacts of the proposed project would generally commit future generations to similar uses. However, the proposed project would not preclude use of the site for other purposes in the future.

Environmental Accident

Due to the age of the buildings, demolition activities could result in the release of contaminated materials and hazardous substances such as lead-based paint or asbestos. Potential release of these hazardous materials may expose construction workers and the public to potential health hazards during demolition and construction activities. Additionally, any proposed demolition of the existing Student Success Center would be located where one of the former leaking underground storage tanks was identified. Impacted soils may still be present and therefore could be encountered during demolition, which would potentially expose construction workers and the public to hazardous conditions. Furthermore, because the property was formerly used for agricultural purposes, residual pesticides and metals may still be present in the soil, which could also present a potentially hazardous condition. Mitigation measures such as conducting a lead-based paint and asbestos survey prior to demolition, as well as conformance to a hazardous materials contingency plan, would be required. Compliance with all mitigation measures herein would reduce impacts to less than significant.

Additionally, while the site is located within a seismically active region and would be exposed to ground shaking in the event of a seismic event, conformance with the regulatory provisions of the Uniform Building Code Requirements pertaining to construction standards would minimize damage and injuries in the event of such an occurrence.

Proposed uses of the OCC campus would be expected to use and store chemicals and/or substances typically found in such settings. The types of hazardous materials associated with routine, day-to-day operation of the proposed project would include chemical reagents, solvents, fuels, paints, cleansers, and miscellaneous organics and inorganics that are used as part of building and grounds maintenance as well as vehicle maintenance. Given federal, state, and local regulations governing the use of such substances, the proposed project is not expected to involve activities that would damage the environment or pose a risk to public health. Therefore, for the reasons listed above, impacts as a result of the proposed project would not create significant and irreversible effects. (See Section 4.7, Hazards and Hazardous Materials, of this Program Environmental Impact Report (PEIR) for analysis of the proposed project's impacts relative to hazardous waste and materials.)

Nonrenewable Energy Consumption

Construction of each of the proposed project components would result in the use of nonrenewable resources and energy sources, including fossil fuels, natural gas, and electricity. Fossil fuels would be used to power construction equipment, vehicles and equipment used for delivery of construction materials, and employee vehicles. Construction equipment would also use electricity and natural gas. Use of these energy sources would be considered a permanent commitment of resources. In addition, a variety of resource materials would be used during the construction process, including steel, wood, concrete, and fabricated materials. Once these materials and fuels are used for purposes of construction, the commitment of such materials and fuels would be considered irreversible.

Once operational, the project components would consume more energy on a daily basis than is currently generated on site. The proposed project would replace existing facilities with more energy-efficient buildings. New facilities associated with the proposed project would be subject to the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting.

Natural resources in the form of construction materials would be utilized in the construction of the proposed project; however, their use is not expected to negatively impact the availability of these resources. Due to the scale of the proposed project, the use of construction materials and nonrenewable resources is not unusual or extraordinary; as a result, there would be no significant and irreversible environmental effects related to resource consumption during construction. The proposed project would not result in the excessive use of fuel or energy, or the use of excessive amounts of power, and impacts would not be irreversible. (See Section 4.13, Utilities and Service Systems, of this PEIR for analysis of the proposed project's impacts relative to energy).

5.3 GROWTH INDUCEMENT

CEQA requires a discussion of ways in which the proposed project could be growth inducing. The CEQA Guidelines identify a project as growth inducing if it fosters economic or population growth or results in the construction of additional housing, either directly or indirectly, in the surrounding environment (14 CCR 15126.2(d)). New employees from commercial or industrial development and new population from residential development represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area. A project could indirectly induce growth by reducing or removing barriers to growth, or by creating a condition that attracts additional population or new economic activity. However, a project's potential to induce growth does not automatically result in growth. Growth can only happen through capital investment in new economic opportunities by the private or public sectors.

Direct growth-inducing impacts are commonly associated with the extension of new public services, utilities, and roads into areas that have previously been undeveloped. The extension of such infrastructure into a non-serviced area can represent the elimination of a growth-limiting factor, thereby inducing growth. Increases in the population may tax existing community service facilities, requiring construction of new facilities and ultimately resulting in an increase in the pace of development or the density of the existing surrounding development. Indirect growth-inducing impacts include an increased demand for housing, commodities, and services that new development causes or attracts by increasing the population or job growth in an area.

The project proposes construction of a 299,650 ASF student and staff residential building on the corner of Adams Avenue and the campus entry. Overall, there would be 818 student resident beds associated with the student housing project (Brailsford & Dunlavey 2014). Development of the proposed student housing project would increase the on-campus residential population from 0 to approximately 800. According to the Southern California Association of Governments (SCAG), the City of Costa Mesa (City) is expected to have a population of 113,700 by the year 2020 (SCAG 2012). Growth associated with the proposed student housing project would account for 0.7% of SCAG's projected growth, which would account for a minor percentage of SCAG's overall growth projections. Furthermore, the proposed student housing project on campus, as with all components of the proposed project, is specifically intended to accommodate projected enrollment increases at OCC.

Additionally, the Coast Community College District (District) would like to increase entrepreneurial activities and attract visitors to the campus through development of a mixed-use development concept in the southeast portion of the campus, the redevelopment of the Recycling Center on the north side of campus, and the development of a new Planetarium, which would attract K–12 students and other visitors. The proposed mixed-use development of the proposed project could include commercial/retail uses and conferencing space. Development of the mixed-use development of the proposed project would likely result in permanent (e.g., new residents that might move to the area for employment) and temporary (e.g., employees commuting from out of the area, tourists, and visitors) increases in population. Because there is no developer yet identified and no specific plan of development, this component would be subject to subsequent CEQA review.

The expansion of the Recycling Center would allow the center to accommodate triple the number of visitors and the new Planetarium would bring students, visitors, and other interested parties to the area. Therefore, these proposed project components would result in permanent and temporary increases in population growth. However, the permanent growth related to the Recycling Center and Planetarium would not exceed local population projections, and the proposed project is not considered to be growth inducing. Impacts would be less than significant and no mitigation is required.

5.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the CEQA Guidelines requires an EIR to contain a statement briefly indicating the reasons that various potentially significant impacts of a project were not discussed in detail in the EIR. This PEIR contains an analysis of the potential significant environmental impacts associated with the proposed project that is based in part on an Initial Study (IS) prepared by the District and attached as Appendix A.

5.4.1 Aesthetics

Scenic Vista Effects

The City's 2000 General Plan does not identify any scenic areas, vistas, or corridors in the vicinity of the campus (City of Costa Mesa 2002). Analysis performed during the IS phase of the proposed project determined that impacts to a scenic vista would be less than significant and further analysis in the PEIR was not required. Additional information is provided in Appendix A.

Scenic Resource Damage

There are no designated scenic roadways within the project vicinity. There are no other scenic resources near or within the proposed project site that are visible from a scenic roadway. Analysis performed during the IS phase of the proposed project determined that impacts to scenic resources within a state scenic highway would be less than significant and further analysis in the EIR was not required. Additional information is provided in Appendix A.

New Source of Light or Glare

The project site is located in an urbanized area in which nighttime lighting is a relatively common feature in the landscape. Therefore, due to the prevalence of existing nighttime lighting sources on the campus and in the surrounding area, lighting associated with the proposed project is not anticipated to substantially affect nighttime views in the area. The PEIR determined that impacts due to substantial new sources of light or glare would also be less than significant. Additional information is provided in Chapter 4.1, Aesthetics, of this PEIR.

5.4.2 Agricultural Resources

The IS determined that all impacts associated with agricultural resources would be less than significant and no additional analysis in the PEIR would be required. For a detailed discussion on less-than-significant impacts regarding agricultural resources, see Appendix A.

5.4.3 Air Quality

Conflict with Applicable Air Quality Plan

The proposed student housing project would increase the on-campus residential population from 0 to approximately 800. However, this projection is consistent with SCAG's growth projections for the City of Costa Mesa and the student housing project is specifically intended to accommodate projected enrollment increases at OCC. Accordingly, the proposed project would result in population growth that is consistent with SCAG's growth projections anticipated in the SCAQMD's 2012 AQMP. Because the planned growth of the proposed project has been factored into the underlying growth projections of the 2012 AQMP, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. Analysis within this PEIR determined that impacts would be less than significant.

Violation of an Air Quality Standard

Construction and operation of the proposed project would not result in the emission of criteria air pollutants from mobile, area, and/or stationary sources, which would cause exceedances of federal and state ambient air quality standards or contribute to existing nonattainment of ambient air quality standards. Analysis within this PEIR determined that impacts would be less than significant.

Cumulatively Considerable Increase of a Criteria Pollutant

Cumulative localized impacts could occur if the construction of the proposed project component were to occur concurrently with another off-campus project. Construction schedules for potential future projects near the OCC campus are currently unknown; therefore, potential construction impacts associated with two simultaneous projects are speculative. The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). However, air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD. Impacts with regards to cumulative construction emissions would be less than significant.

Considering the proposed project would result in population growth that is consistent with the growth projections anticipated in the SCAQMD's 2012 AQMP, operation of the proposed project would not result in a cumulatively considerable contribution to the nonattainment pollutants in the basin, and this impact would be less than significant, as discussed in this PEIR.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Construction activities associated with the proposed project would result in temporary sources of fugitive dust and construction vehicle emissions. However, according to the Localized Significant Thresholds (LSTs) analysis, in Section 4.2.4 of this PEIR, construction activities would not generate emissions in excess of site-specific LSTs during the respective construction phases, and impacts to sensitive receptors in the vicinity of the project site would be less than significant. Long-term operation of the proposed project would result in daily vehicular trips that would generate local emissions that could expose sensitive receptors to substantial pollutant concentrations. However, according to the Carbon Monoxide (CO) Hotspot analysis, in Section

4.2.4 of this PEIR, maximum CO concentrations surrounding key intersections within the vicinity of the campus would be below the state 1-hour CO standard of 20 ppm and the 8-hour CO concentrations would be below the state CO standard of 9.0 ppm. Accordingly, impacts were determined to be less than significant, as discussed in this PEIR.

Objectionable Odors

Construction of proposed project components would result in the emission of diesel fumes and other odors typically associated with construction activities. However, typical construction techniques in compliance with SCAQMD rules would be used. Odors are highest near the source and would quickly dissipate off site. Any odors associated with construction activities would be temporary and would cease upon completion of construction.

Land uses and industrial operations that typically are associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Accordingly, it is not anticipated that any operational sources under the proposed project would result in objectionable odors. Analysis within this PEIR determined that impacts would be less than significant.

5.4.4 Biological Resources

Riparian Habitat or Natural Community

The project site is not located in riparian habitat or a sensitive natural community, and would not have an adverse effect on these habitats. Analysis in the IS determined that impacts to such resources would be less than significant and further analysis in the PEIR was not required. Additional information regarding less-than-significant impacts on riparian habitats or natural communities can be found in Appendix A.

Federally Protected Wetlands

The proposed project site does not contain federally protected wetlands and therefore no impacts would occur. Analysis in the IS determined that impacts to such resources would be less than significant and further analysis in the PEIR was not required. Additional information is provided in Appendix A.

Migratory Wildlife Corridors

Development is the dominant land cover type within the project area, totaling approximately114 acres of the approximately 160-acre campus. No wildlife corridors are located on the site due to existing surrounding urban development. Therefore, no impacts related to wildlife corridors would occur. Additional information is provided in Section 4.3, Biological Resources, of this PEIR.

Conflict with Local Policies or Ordinances

The proposed project would not conflict with any local policies or ordinances. The proposed project would follow guidelines established by the City's Streetscape and Median Development Standards (City of Costa Mesa 2008). The District would obtain a permit from the City if new trees or landscaping would be added to or removed from the public right-of-way. The IS determined that impacts due to conflicts with local policies or ordinances would be less than significant.

Conflict with HCP or NCCP

The proposed project is not located within any adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or local or regional HCP areas. Analysis in the IS determined that impacts to such resources would be less than significant and further analysis in the PEIR was not required. Additional information is provided in Appendix A.

5.4.5 Cultural Resources

Disturbance of Human Remains

There is very low potential for human remains on the project site and compliance with existing regulations pertaining to the discovery of human remains would be required. As a result, it was determined that the proposed project would result in less-than-significant impacts to human remains. Analysis is provided Section 4.4, Cultural Resources, of this PEIR.

5.4.6 Geology and Soils

Exposure to Faulting, Seismic Ground Shaking, Liquefaction, or Landslides

The projects contemplated in the Vision 2020 Facilities Master Plan would not be approved or built without adequately demonstrating to the Division of the State Architect and California Geological Survey their compliance with the California Building Code and applicable geologic hazards regulations. For this reason, the proposed project would be designed and built in a manner that would reduce to acceptable levels public exposure to geologic risks, and the potential impacts of the proposed project would be less than significant. A more detailed analysis is provided in Section 4.5, Geology and Soils, of this PEIR.

Soil Erosion or Loss of Topsoil

Because the proposed project site is already developed and is not located in sloped areas, the potential for substantial soil erosion or significant loss of topsoil is generally low. Analysis found within this PEIR (Section 4.5 and Section 4.8) determined that impacts related to soil erosion or loss of topsoil would be less than significant.

Unstable Geologic Unit or Expansive Soils

Shrinking/swelling of soil, differential settlement potential, and high corrosion risks are common geotechnical issues in California, particularly within clay-rich residual soils, hydric soils, and wetland/estuarine peat/mud deposits. Standard engineering practices have been developed to effectively address such concerns. Projects contemplated in the Vision 2020 Facilities Master Plan would not be approved or built without adequately demonstrating to the Division of the State Architect and California Geological Survey their compliance with the California Building Code and applicable geologic hazards regulations. For these reasons, the potential impact of the proposed project with respect to expansive or otherwise unstable soils would be less than significant. Additional detail is provided in Section 4.5, Geology and Soils.

Septic Tanks or Alternative Wastewater Disposal Systems

The proposed project does not include septic tanks or alternative wastewater disposal systems; therefore, no impact would occur. The IS determined that this issue would not be analyzed further in the PEIR.

5.4.7 Greenhouse Gas Emissions

Greenhouse Gas Emissions

Construction of the proposed project would result in GHG emissions that would primarily be associated with use of off-road construction equipment, on-road hauling and vendor trucks, and worker vehicles. Operation of the proposed project would result in GHG emissions through energy use (natural gas and generation of electricity consumed by the project); motor vehicle trips to project land uses; generation of electricity associated with water supply, treatment, and distribution and wastewater treatment; and solid waste disposal. Compared to existing conditions, the proposed project would result in an addition of GHG emissions. Several statewide GHG-reduction measures would reduce GHG emissions associated with motor vehicles and electrical generation over time. The benefits of these measures were compared to the GHG emissions that would be generated under a business-as-usual scenario, in Section 4.6.4 of this PEIR. The proposed project along with implementation of the statewide measures would result in a 21.9% reduction compared to business as usual. Accordingly, it would achieve an equivalent of the 21.7% statewide reduction required to meet the goal of AB 32. On the basis of the comparison of the proposed project's GHG emissions to business as usual, the proposed project would result in an impact for GHG emissions that is less than significant.

Conflict with Applicable Greenhouse Gas Reduction Plan

Neither OCC, nor local jurisdictions, nor the SCAQMD have adopted any GHG reduction measures that would apply to the GHG emissions associated with the proposed project. At this time, no mandatory GHG regulations or finalized agency guidelines would apply to implementation of this project, and no conflict would occur. Therefore, this impact would be less than significant, as discussed in this PEIR.

5.4.8 Hazards and Hazardous Materials

Near an Airport or within an Airport Land Use Plan Area

Proposed project activities would not pose a hazard for people residing or working in the project area because the campus is not near an airport or within an airport land use plan area. The proposed project includes the construction of several multistory buildings. Although the height of these proposed buildings is not yet known, if they are designed to exceed 200 feet (approximately 10 stories), then federal and state law as well as requirements set by the Airport Land Use Commission would be followed and a Notice of Landing Area Proposal (Form 7480-I) would be filed (City of Costa Mesa 2002). Impacts were determined in the IS to be less than significant and no further analysis was included in this PEIR.

Within the Vicinity of a Private Airstrip

The proposed project is not located within the vicinity of a private airstrip. No private airstrips exist within 2 miles of the proposed project site; therefore, the IS determined that there was no impact.

Impaired Emergency Response

Permitting requirements mandate that the Fire Department and the Division of the State Architect perform an access compliance review and a fire and life safety review, respectively, prior to approval of individual project drawings and specification documents. Therefore, emergency access would be ensured and the proposed project would not interfere with an adopted emergency response or evacuation plan. Impacts were determined to be less than significant in this PEIR.

Wildland Fire Risks

The proposed project is in an urbanized area with no adjacent wildlands. The area surrounding the project site is generally urbanized and developed. Therefore, impacts were determined in the IS to be less than significant and no further analysis was included in this PEIR.

5.4.9 Hydrology and Water Quality

Depleted Groundwater Supplies

The water needs of the proposed project would be met by the Mesa Consolidated Water District. No on-site groundwater wells are proposed; therefore, impacts to groundwater supplies, depletion of aquifer volume, or lowering of the local groundwater table level would be limited to the well field from which the water district derives its supplies. The water drawn from the groundwater basin is roughly 500,000 acre-feet per year; the increase in demand as a result of the proposed project would be negligible, and would be far less than the variation in demand due to climatic conditions (MCWD 2011). Analysis within this PEIR determined that impacts would be less than significant.

Introduction of Housing within a Flood Hazard Area

According to the Federal Emergency Management Agency Flood Insurance Rate Map, the proposed project site is not located within the 100-year flood hazard area (FEMA 2009). Therefore, the proposed project would not locate housing in a 100-year flood hazard area.

Introduction of Structures That Would Impede or Redirect Flood Flows

As stated above, the proposed project is not within a 100-year flood hazard area. Therefore, the proposed project would not place structures that would impede or redirect flood flows in a 100-year flood hazard area.

Loss, Injury, or Death Due to Dam Inundation

Due to the distance of dams from the campus and improvements that have been made to the Lower Santa Ana River channel, flooding due to levee or dam failure is unlikely. Impacts were determined to be less than significant in the IS phase.

Seiche, Tsunami, or Mudflow

According to the City of Costa Mesa 2000 General Plan, the project site is not at risk for inundation by seiche, tsunami, or mudflow (City of Costa Mesa 2002).

5.4.10 Land Use and Planning

The IS determined that all impacts associated with land use and planning would be less than significant and no additional analysis in the PEIR would be required. For a detailed discussion on less-than-significant impacts regarding land use and planning, see Appendix A.

5.4.11 Mineral Resources

The IS determined that no impacts associated with mineral resources would occur and no additional analysis in the PEIR would be required. For a detailed discussion regarding mineral resources, see Appendix A.

5.4.12 Noise

Excessive Ground-Borne Vibration

Pile driving, blasting, or other special construction techniques are not anticipated to be used for construction of the facilities identified in the Vision 2020 Facilities Master Plan; therefore, excessive ground-borne vibration and ground-borne noise would not be generated. Additionally, ground-borne vibration would not be associated with the proposed project following construction activities. Analysis within this PEIR determined that no impacts related to excessive ground-borne vibration would occur.

Permanent Increase in Ambient Noise

Due to the amount of increase in noise level (less than 2 decibels, rounded to whole numbers), noise impacts due to project-related traffic are not anticipated to be significant. Analysis within this PEIR (Section 4.9, Noise) determined that impacts would be less than significant.

Exposing People to Excessive Noise near a Public Airport

John Wayne International Airport is the closest airport to the campus, but the airport is not within the vicinity of the project site. Therefore, the project would not expose people to excessive noise levels.

Exposing People to Excessive Noise near a Private Airstrip

The proposed project is not located within the vicinity of a private airstrip. No private airstrips exist within 2 miles of the proposed project site; therefore, there is no impact.

5.4.13 Population and Housing

Inducing Substantial Population Growth

The proposed student housing project would increase the on-campus residential population from 0 to approximately 800. However, this projection is consistent with SCAG's growth projections for the City of Costa Mesa and the student housing project is specifically intended to accommodate projected enrollment increases at OCC. In addition, the temporary increases in population due to visitors or tourists would not result in substantial population growth. Analysis within this PEIR determined that impacts would be less than significant.

Displacing Housing

The proposed project would not displace existing housing. No housing units currently exist on the campus.

Displacing People

The proposed project would not displace people, as development is proposed on an existing campus to provide additional education facilities and facilities that support the academic mission of the campus. There are no plans to move any facilities that would result in the displacement of people from the project area.

5.4.14 Public Services

Fire Protection

The proposed project would result in a limited number of additional calls for fire service and would not result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts.

Police Protection

In light of the proposed project's forecasted effect on existing response times, in combination with the fact that project implementation would not result in the need for new or physically altered governmental facilities, analysis within this PEIR determined that the proposed project would not result in potentially significant impacts to police services; no mitigation is necessary.

Schools

The proposed project would not generate additional demand for elementary and secondary schools in the surrounding community; therefore, impacts would be less than significant.

Parks

The proposed project would have no impact on local parks. The proposed project area would experience an increase in population; however, the campus offers athletic fields and recreational opportunities, so nearby parks would not have a significant increase in visitors and acceptable service ratios would be maintained.

Other Public Facilities

The project would have no impact on libraries and other public facilities. OCC has a library on campus to serve the students; therefore, any increase in student enrollment would not adversely affect local libraries and acceptable service ratios would be maintained.

5.4.15 Recreation

The IS determined that all impacts associated with recreation would be less than significant and no additional analysis in the PEIR would be required. For a detailed discussion on less-than-significant impacts regarding recreation, see Appendix A.

5.4.16 Traffic and Circulation

Conflict with any Applicable Plans

An analysis of existing plus project traffic and year 2024 cumulative plus project traffic indicates that there are no significant impacts as a result of the proposed project at any of the 35 analyzed intersections and no mitigation is required.

Conflict with Applicable Congestion Management Plan

An analysis of future (Year 2024) cumulative traffic conditions indicates that the addition of ambient traffic growth and cumulative projects' traffic would not conflict with an applicable congestion management program. The analysis within this PEIR determined that no adverse impacts would result.

Change in Air Traffic Patterns

The proposed project site is not located within the vicinity of an airport or private airstrip. The nearest airport is John Wayne International Airport, located 2 miles east of the proposed project site. No private airstrips exist within 2 miles of the proposed project site. Air traffic patterns would not be affected by the proposed project.

Design Feature Hazard

Proposed circulation modifications would increase wayfinding to the campus by making campus entries more visible. The proposed project would have no adverse impact on safety based on design features, nor would it increase hazards due to an incompatible use. The analysis within this PEIR determined that no adverse impacts would result.

Inadequate Emergency Access

The vehicular entries from Monitor Way, Pirate Way, and Arlington Drive would be enhanced with the addition of formal gateways and marked pedestrian drop-off points. The primary entry into Lot E off Merrimac Way would also be enhanced. These enhancements could assist in visibility of campus entry points for emergency vehicles. The analysis within this PEIR determined that no adverse impacts would result.

Conflict with Alternative Transportation

The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycles, or pedestrians. The campus is currently designed with pedestrian walkways and access points that separate pedestrians from on-campus vehicular routes, and these routes are proposed for enhancement as part of the Vision 2020 Facilities Master Plan (see Figure 3-5 in Chapter 3, Project Description). Furthermore, the campus has bike racks to accommodate bicyclists and these facilities would not be impacted by the proposed project. The analysis within this PEIR determined that no adverse impacts would result.

5.4.17 Utilities and Service Systems

Exceedance of Wastewater Treatment Requirements

The proposed project would generate additional wastewater discharges by adding additional residents; additional academic, general administrative, auxiliary, and recreational space; and a general increase in the number of campus students. The Orange County Sanitation District (OCSD) is the National Pollutant Discharge Elimination System (NPDES) permit holder for Fountain Valley Reclamation Plant No. 1 and Huntington Beach Treatment Plant No. 2, and it is responsible for compliance with the wastewater treatment requirements in the NPDES permit, Order No. R8-2012-0035/CA0110604 (Santa Ana RWQCB 2012). These plants have the capacity to process the additional wastewater generated from the project and upon connection to Costa Mesa Sanitary District facilities, the proposed project would be in compliance with the wastewater treatment requirements of the Regional Water Quality Control Board. The analysis within this PEIR determined that no adverse impacts would result.

Construction of New Drainage Facilities

The proposed project could slightly modify existing topography, drainage-shed boundaries, or runoff rates/patterns; however, changes would be minor and would not require the expansion of stormwater drainage facilities or construction of new facilities. The analysis within this PEIR determined that impacts would be less than significant.

Adequate Wastewater Treatment Capacity

The OCSD treatment plants have the capacity to process 372 million gallons per day (MGD) and are currently processing 201 MGD. Any increase in demand by the proposed project would be relatively minor in the context of the overall treatment capacity of the OCSD. A service agreement and, if required, payment of impact fees, would be required prior to initiating new sewer connections with the Costa Mesa Sanitary District. Therefore, the analysis in this PEIR determined that impacts with regard to wastewater treatment would be less than significant.

Conflict with Solid Waste Regulations

All of the District campuses, including OCC, typically divert over 50% of their solid waste to a licensed recycling facility. Maintaining the existing diversion rate would ensure compliance with Assembly Bill 75, which requires all large state facilities to divert at least 50% of solid waste from landfills. Therefore, the analysis in this PEIR determined that impacts with regard to wastewater treatment would be less than significant.

Excessive Use of Fuel/Energy and/or Excessive Use of Power

The proposed project would create additional electricity and natural gas demand by adding additional residents; additional academic, general administrative, auxiliary, and recreational space; additional parking facilities; and a general increase in the number of campus students. The proposed project would involve the demolition of 166,784 ASF of existing facilities on campus. The proposed project would replace these existing facilities with more energy-efficient buildings. New facilities associated with the proposed project would be subject to the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The proposed project would not result in the excessive use of fuel or energy, or in excessive amounts of power; therefore, impacts would be less than significant.

5.5 REFERENCES

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CHAPTER 6
ALTERNATIVES

6.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that Environmental Impact Reports (EIRs) "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (Guidelines Section 15126(a)). The CEQA Guidelines direct that the selection of alternatives be governed by "a rule of reason." The alternatives selected for detailed review in the EIR may be limited to those that "would avoid or substantially lessen one or more of the significant effects of the project" and would "feasibly attain most of the basic objectives of the project." The selection of alternatives and their discussion must "foster informed decision making and public participation" (Guidelines Section 15126 (a). This chapter identifies potential alternatives to the proposed project and evaluates them, as required by CEQA.

6.1.1 Project Objectives

The overall goal of the proposed project is to provide the optimal physical settings to support the District's academic mission. The intent of the proposed project is to develop modern teaching and learning facilities that would attract students to OCC while providing the physical resources necessary to support the educational process. With this overarching goal in mind, project objectives developed during the Vision 2020 Facilities Master Plan planning process are viewed through the OCC Educational Master Plan and Values (CLASS or Community, Learning, Access, Stewardship, and Student and Employee Engagement). An additional theme was added during the facilities planning Master Plan revision process (Non-Mission Critical) which includes preservation of the architectural history of the college and maintenance of the historical district.

Community

- Be consistent with Measures C and M/Communication to Constituents
- Support Global and International Education
- Provide joint venture and entrepreneurial opportunities that support the academic needs and mission of the college

Learning – Quality of Education

- Provide long-term (beyond 2024) flexibility to support the educational mission

- Provide modern teaching and learning facilities in terms of space, configuration, technology and adjacencies
- Provide on-campus student housing that provides access to learning, enhances student engagement and enhances program offerings
- Maintain consistency with the Vision 2020 Master Facilities Plan

Access

- Provide a One-Stop Student Services Center
- Increase navigability of the campus and enhance way finding
- Enhance vehicular circulation
- Enhance bike circulation
- Enhance service vehicle circulation

Stewardship

- Maintain capacity-load ratios that allow the College to remain competitive for State capital dollars
- Provide long-term (beyond 2024) physical flexibility of campus space for strategic planning and constructability
- Create defensible space (enhance lines of sight and eliminate hiding places) which will foster a sense of safety for campus users
- Accommodate physical growth over the planning horizon (2024)
- Improve the total cost of ownership (initial cost, operating expenses for staffing and energy efficiency, and replacement cost)
- Reduce resource consumption and support environmentally responsible practices to change behavior in the campus community and beyond
- Phase construction to minimize the need to move staff, faculty, and students more than once
- Minimize the use and cost of temporary space

Student and Employee Engagement

- Improve campus zoning (e.g. Student Services, Math and Science, Fine Arts, Athletics)
- Provide a hierarchy of exterior socialization spaces
- Create defined/sustainable campus quad

Other/Non-Mission Critical

- Preserve Architectural history of Orange Coast College Buildings
- Maintain historic district (according to the Secretary of the Interior standards)

Pursuant to the guidelines stated previously, as well as the project objectives, a range of alternatives to the proposed project are considered and evaluated in this Program EIR (PEIR). In order to summarize these project alternatives, as suggested in CEQA Guidelines, Section 15126.6(d), a matrix has been prepared to summarize and compare the impacts of each project alternative (see Table 6-2, Comparison of Alternatives at the end of the chapter)**.**

6.2 ALTERNATIVES CONSIDERED AND ELIMINATED DURING THE SCOPING/PROJECT PLANNING PROCESS

The following is a discussion of the campus plan alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this Program EIR (PEIR). Orange Coast College has a Facilities Planning Committee that considers all facilities and land use decisions on campus and makes recommendations to the campus president and the Board of Trustees. The committee is comprised of professors, staff, and students. As part of the planning process for this EIR, this participatory group reviewed the alternatives proposed in the Page & Turnbull studies were analyzed with institutional and student services programs for applicability with program needs. The Facilities' Planning Committee further analyzed alternatives with the college values and strategic goals.

Page & Turnbull was hired by the District to prepare a Historic Structures Report (HSR) and assist in the development of feasible preservation alternatives. Page & Turnbull developed five preservation alternatives: 1A, 1B, 1C and 2A and 2B (Appendix D). The District decided to carry forward three of the five alternatives developed by Page & Turnbull to be analyzed in this Recirculated Draft PEIR. The table below summarizes these alternatives.

Page & Turnbull Alternatives 1C and 2A were not carried forward primarily because they were very similar to other alternatives that were carried forward for further analysis. Alternative 1C is a minor variation on 1B which was carried forward. Alternative 1C retains the Pledger/Blurock building additions in the central core of campus. By keeping these buildings, the line of sight between buildings is impeded, thus the District did not carry this alternative forward. Also, these buildings were not considered historically significant by Page & Turnbull as they were not designed by Neutra and Alexander. Alternative 2A is very similar to Alternative 2B, except it does not accommodate a new dance program complex in the central core of campus. Therefore, this alternative was rejected by the College in favor of 2B which does accommodate the new dance program complex.

6.2.1 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 the significant effects of the project need be considered for inclusion in the EIR (Guidelines 15126 (f)(2)). Since the proposed project is a Master Plan update, an alternative site analysis is not appropriate. The site of the proposed project is Orange Coast College; moving the Vision 2020 Facilities Master Plan update to another campus or off-site would not meet the project objectives and would not be feasible. As a result, alternative development areas were rejected and are not analyzed in detail in this PEIR.

6.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

The following four alternatives, in addition to the No Project/No Development and No Project/Existing Master Plan Alternatives, were selected to represent a reasonable range of alternatives that have the potential to feasibly attain most of the basic objectives of the proposed project but may avoid or substantially lessen any of the significant effects of the project. These alternatives include the Full Preservation Alternative (Alternative 6, Page & Turnbull 1A), the Maximum Reuse Alternative (Alternative 5, Page & Turnbull 1B), the Majority Reuse Alternative (Alternative 4, Page & Turnbull 2B), and the Significant Reuse Alternative (Alternative 3). The District's proposed project is also known as Strategic Reuse (as shown on Table 3-4 in the project description). These alternatives are summarized in Table 6-1 below and a crosswalk is made between the Alternatives carried forward by the District and the Page & Turnbull alternatives.

An EIR must identify an "environmentally superior" alternative, and where the No Project Alternative is identified as environmentally superior, the EIR is then required to identify an alternative from among the others evaluated as environmentally superior. Each alternative's environmental impacts are compared to the proposed project and determined to be environmentally superior, neutral, or inferior. However, only those impacts found significant and unavoidable are used in making the final determination of whether an alternative is environmentally superior or inferior to the proposed project. Environmental impacts involving historic resources were found to be significant and unavoidable. Section 6.4 identifies the Environmentally Superior Alternative.

Table 6-1
Summary Description of Alternatives

Alternative	Page & Turnbull Alternative	Description	Estimated Cost	Reduces Significant CEQA Impact?
No Project/Existing Master Plan Alternative	N/A	The campus would build out under the previously approved Master Plan.	Costs estimated under previous bond.	No
No Project/No Development Alternative	N/A	No more new construction would occur, even to construct the remaining buildings under the previously approved Master Plan.	Unknown maintenance costs.	Yes
Full Preservation (Alternative 6)	1A	Would retain/reuse all Neutra-designed buildings on campus. Planetarium would be relocated to North of its currently designed location to avoid impacts to Science Wing. Minor alterations to character defining features.	$41,741,875	Yes
Maximum Reuse (Alternative 5)	1B	Would retain/reuse all Neutra-designed buildings in the campus core. Allows for the removal of the pool and field house. New planetarium would be relocated to the North of its currently designed location to avoid impacts to the Science Wing.	$37,422,875	No
Majority Reuse (Alternative 4)	2B	Keeps new planetarium at currently proposed location and would demolish a portion of the Science Wing to accommodate the new planetarium. Expands the Classroom & Labs (C&L) Wing for a new dance program building to be constructed in the inner core. The pool and field house would be removed.	$31,851,750	No
Significant Reuse (Alternative 3)	N/A	Would retain two “row” buildings in the central core, Business Education Wing and C&L Wing. The C&L Wing would be expanded to include the new dance program facility. The Science Wing would be demolished and the new planetarium constructed in its currently proposed location.	$29,760,544	No

Note: N/A = Not Applicable

6.3.1 No Project/Existing Master Plan Alternative

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate and analyze the impacts of the “No Project” Alternative. When the project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, the “no project” alternative will be the continuation of the plan, policy, or operation into the future. Therefore, the No Project/Existing Master Plan Alternative, as required by the CEQA Guidelines, analyzes the effects of continued implementation of the District's existing Orange Coast College Master Plan and EIR adopted in 2007. This means that the campus would be built out according to the growth projections at that time, which would likely not accommodate the projected growth expected through 2024.

Aesthetics

The 2007 Master Plan represented an attempt to start building instructional buildings outside the inner quad of campus. Under this building plan a number of new buildings around the inner core (new library, new science building, and renovations to the Le Bard Stadium as a few examples) were implemented, but the vision for the inner core of campus was never fully realized. The previous EIR recognized that the campus lacked a clear sense of identity due to the inward orientation of facilities, the limited vistas into the core of campus, and a lack of consistent and effective signage. The Vision 2020 Facilities Master Plan does have a vision for the inner core of campus that addresses many of these identified failings that remain unaddressed in the previous master plan. Therefore, the No Project/Existing Master Plan Alternative is environmentally inferior to the proposed project in terms of aesthetics.

Air Quality

Under the No Project/Existing Master Plan Alternative, the campus would continue to function under the direction of the existing master plan, which is almost built out. Buildout under the existing master plan would not include large projects, like the planetarium, student housing, expanded recycling center or many of the new instructional buildings. Less construction would mean that there would be fewer construction-related and operational air quality impacts, and the lack of new buildings would mean that proposed programs would not be served, potentially capping student enrollment and potential new visitors to the campus. From an environmental standpoint, the No Project/Existing Master Plan Alternative is environmentally superior to the proposed project in terms of air quality impacts. However, the No Project/Existing Master Plan Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Biological Resources

Under the No Project/Existing Master Plan Alternative, the campus would continue to function under the direction of the existing Master Plan. Because construction activity would be reduced under the No Project Alternative, there would be fewer potential impacts to nesting birds. Therefore, the No Project/Existing Master Plan Alternative would be considered environmentally superior to the Vision 2020 Facilities Master Plan with regard to biological resources. However, the No Project/Existing Master Plan Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Cultural Resources

Because the 2007 Master Plan envisioned that much of the center of campus would be cleared out for a sweeping mall, many of the historic buildings in the inner core of campus would be demolished to make room for the mall. As a result, there would be historic resources impacts similar, but greater than the proposed project. Under the proposed project, the Business Education Wing in the core of campus would be preserved and reused. Archaeological and paleontological resources impacts would be mitigated under both the previous Master Plan and the proposed project. Therefore, the No Project/Existing Master Plan Alternative is considered neutral when compared to the proposed project, because both would have significant impacts to historic resources although the proposed project saves the Business Education Wing. Impacts to archaeological and paleontological resources would be mitigated under both the No Project/Existing Master Plan Alternative and the proposed project. However, the No Project/Existing Master Plan Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Geology and Soils

Under the No Project/Existing Master Plan Alternative, the campus would continue to function under the direction of the existing Master Plan. Because construction activity would be reduced under the No Project Alternative and fewer students would be anticipated under the existing master plan, fewer people would be exposed to geology and soils impacts, including earthquakes, ground shaking, and liquefaction. Therefore, the No Project/Existing Master Plan Alternative would be considered environmentally superior to the Vision 2020 Facilities Master Plan with regard to geology and soils. However, the No Project/Existing Master Plan Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Greenhouse Gas Emissions

Under the No Project/Existing Master Plan Alternative, the campus would continue to function under the direction of the existing master plan, which is almost built out. Buildout under the existing master plan would not include some large projects, like the planetarium, student housing, expanded recycling center, or new instructional buildings. Less construction would mean that there would be less construction-related greenhouse gas emissions, and the lack of new buildings would mean that proposed programs would not be served, potentially capping student enrollment and potential new visitors to the campus. While the Vision 2020 Facilities Master Plan does not have significant greenhouse gas emissions impacts, there would be greater construction and operational impacts under the proposed project than the No Project/Existing

Master Plan Alternative. Therefore, the No Project/Existing Master Plan Alternative is environmentally superior to the proposed project in terms of greenhouse gas emissions. However, the No Project/Existing Master Plan Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hazards and Hazardous Materials

Two leaking underground storage tank (LUST) sites were identified on campus related to fuel releases to soils, and both cases are closed. However, under the Vision 2020 Facilities Master Plan, impacted soils could be encountered during demolition and construction. Furthermore, due to the age of buildings planned for demolition, contaminated materials and hazardous substances like lead-based paint or asbestos could be released. These impacts are very similar to the No Project/Existing Master Plan Alternative, as well, because that plan also envisioned demolition of buildings in the inner core of campus. Therefore, the No Project/Existing Master Plan Alternative is neutral compared to the proposed project in terms of hazards and hazardous materials.

Hydrology and Water Quality

The 2007 Master Plan and the proposed project both have hydrology and water quality impacts that can be mitigated. These impacts were primarily related to the potential for erosion and water-quality impacts during construction. The amount of pervious and impervious surfaces will be similar under the proposed project and the No Project/Existing Master Plan Alternative, thus operational impacts related to hydrology and water quality are expected to be the same. Therefore, the No Project/Existing Master Plan Alternative is considered neutral when compared to the proposed project in terms of hydrology and water quality impacts.

Noise

The 2007 Master Plan and the proposed project both have noise impacts that can be mitigated. These impacts were primarily related to the potential for noise impacts during construction. Therefore, the No Project/Existing Master Plan Alternative is considered neutral when compared to the proposed project in terms of noise impacts.

Population and Housing

Under the No Project/Existing Master Plan Alternative, the campus would continue to operate under the direction of the existing Master Plan. Buildout under the existing Master Plan would result in fewer instructional buildings that have been identified as needed for the campus' future projected growth and there would be no student housing on campus. The proposed project plans for future growth and provides opportunities for student enrichment through educational programming and the new facilities to meet those needs. Also, by envisioning student housing on campus, the college is moving in a new direction to create a resident population, which will enliven the campus and enrich learning opportunities for students, changing it from operating 4 days a week to 7 days per week. Neither the proposed project nor the No Project/Existing Master Plan Alternative has population and housing impacts (e.g., induces significant population growth not envisioned in regional plans or causes the displacement of housing or people). Therefore, the No Project/Existing Master Plan Alternative is considered neutral when compared to the proposed project in terms of population and housing impacts.

Public Services

Under the No Project/Existing Master Plan Alternative, the campus would continue to operate under the direction of the existing Master Plan. No public services impacts were identified in the previous EIR. Under the proposed project, there would be a need for additional fire and police services related to project campus growth and the student housing project on campus. However, these impacts were considered less than significant. Therefore, the No Project/Existing Master Plan Alternative is considered neutral when compared to the proposed project in terms of public services impacts.

Traffic and Circulation

Under the No Project/Existing Master Plan Alternative, the campus would continue to operate under the direction of the existing Master Plan. No traffic impacts were identified in the previous EIR and there are no traffic impacts under the proposed project. Therefore, the No Project/Existing Master Plan Alternative is considered neutral when compared to the proposed project in terms of traffic impacts.

Utilities and Service Systems

Under the No Project/Existing Master Plan Alternative, the campus would continue to operate under the direction of the existing Master Plan. No utility and service system impacts were identified in the previous EIR. Under the proposed project, there would be a need for additional water, wastewater, and landfill services related to project campus growth and the student housing project on campus. However, these impacts were considered less than significant. Therefore, the No Project/Existing Master Plan Alternative is considered neutral when compared to the proposed project in terms of public services impacts.

Conclusion

The No Project/Existing Master Plan Alternative would be considered environmentally superior in Air Quality, Biological Resources, Geology and Soils, and Greenhouse Gas Emissions (four areas). It would be environmentally inferior in Aesthetics (one area) and environmentally neutral in Cultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Traffic and Circulation, and Utilities and Service

Systems (eight areas). The adoption of the No Project/Existing Master Plan Alternative would not meet the project objectives identified by the District for the modernization of learning facilities and for campus growth through 2024. The No Project/Existing Master Plan Alternative fails to accomplish the project objectives in the District's vision and has environmental impacts that are the same or greater for nine resource areas (all the neutral or inferior areas mentioned above). The No Project/Existing Master Plan Alternative does not accommodate future campus growth; it does not provide opportunities for on-campus housing or provide entrepreneurial opportunities; and it does not address the need for additional parking on campus (new parking structure). The No Project/Existing Master Plan Alternative is, therefore, not considered environmentally superior to the proposed project and it does not meet the District's project objectives.

6.3.2 No Project/No Development Alternative

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate and analyze the impacts of the "No Project" Alternative. When the project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, the "no project" alternative will be the continuation of the plan, policy, or operation into the future. Therefore, the No Project/Existing Master Plan Alternative, as required by the CEQA Guidelines and discussed above, analyzes the effects of continued implementation of the District's existing Orange Coast College Master Plan and EIR adopted in 2007. In addition, this EIR also examines the No Project/No Development Alternative in response to a comment made on the original PEIR. This Alternative assumes that no further buildout from the previously approved Master Plan would occur and the campus would stay in its existing state, with some of the projects from the previous Master Plan constructed, but no additional projects from the previously approved Master Plan to be constructed in the campus core. What remains to be completed from the previous Master Plan are the following projects: a new Student Center/Bookstore; building modernization and renovation; building placement and organization of the campus into distinct zones; reconfiguration of existing parking lots; and addition of pedestrian walkways. However, under the No Project/No Development Alternative, none of these remaining elements would be constructed and there would be no development as proposed under the Vision 2020 Facilities Master Plan.

Aesthetics

The 2007 Master Plan represented an attempt to start building instructional buildings outside the inner quad of campus. Under this building plan a number of new buildings around the inner core (new library, new science building, and renovations to the Le Bard Stadium as a few examples) were implemented, but the vision for the inner core of campus was never fully realized. The previous EIR recognized that the campus lacked a clear sense of identity due to the inward orientation of facilities, the limited vistas into the core of campus, and a lack of consistent and effective signage. The Vision 2020 Facilities Master Plan does have a vision for the inner core of campus that addresses many of these identified failings that remain unaddressed in the previous master plan. Under the No Project/No Development Alternative, none of the projects from the 2007 Master Plan that were not completed under that Plan would be built. Therefore, the No Project/No Development Alternative is environmentally inferior to the proposed project in terms of aesthetics.

Air Quality

Under the No Project/No Development Alternative, the campus would continue to function under the direction of the existing master plan, which is almost built out, but no additional projects would be built. Less construction would mean that there would be fewer construction-related and operational air quality impacts, and the lack of new buildings would mean that proposed programs would not be served, potentially capping student enrollment and potential new visitors to the campus. However, from an environmental standpoint, the No Project/No Development Alternative is environmentally superior to the proposed project in terms of air quality impacts. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Biological Resources

Under the No Project/No Development Alternative, no more construction would occur on the campus. Because construction activity would be reduced under the No Project/No Development Alternative, there would be fewer potential impacts to nesting birds. Therefore, the No Project/No Development Alternative would be considered environmentally superior to the Vision 2020 Facilities Master Plan with regard to biological resources. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Cultural Resources

Because the 2007 Master Plan envisioned that much of the center of campus would be cleared out for a sweeping mall, many of the historic buildings in the inner core of campus would be demolished to make room for the mall. Under a No Project/No Development Alternative, these buildings would not be removed. Under the proposed project, the Business Education Wing in the core of campus would be preserved and reused, but the remaining buildings would be removed. Archaeological and paleontological resources impacts would not occur. Therefore, the No Project/No Development Alternative is considered superior when compared to the proposed project, because it would avoid significant impacts to historic resources. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Geology and Soils

Under the No Project/No Development Alternative, no more construction would occur on the campus. Because construction activity would be reduced under the No Project/No Development Alternative and fewer students would be anticipated as a result, fewer people would be exposed to geology and soils impacts, including earthquakes, ground shaking, and liquefaction. Therefore, the No Project/No Development Alternative would be considered environmentally superior to the Vision 2020 Facilities Master Plan with regard to geology and soils. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Greenhouse Gas Emissions

Under the No Project/No Development Alternative, no more construction would occur on the campus. Less construction would mean that there would be less construction-related greenhouse gas emissions, and the lack of new buildings would mean that proposed programs would not be served, potentially capping student enrollment and potential new visitors to the campus. While the Vision 2020 Facilities Master Plan does not have significant greenhouse gas emissions impacts, there would be greater construction and operational impacts under the proposed project than the No Project/No Development Alternative. Therefore, the No Project/Existing Master Plan Alternative is environmentally superior to the proposed project in terms of greenhouse gas emissions. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hazards and Hazardous Materials

Two leaking underground storage tank (LUST) sites were identified on campus related to fuel releases to soils, and both cases are closed. However, under the Vision 2020 Facilities Master Plan, impacted soils could be encountered during demolition and construction. Furthermore, due to the age of buildings planned for demolition, contaminated materials and hazardous substances like lead-based paint or asbestos could be released. Under the No Project/No Development Alternative, demolition of buildings would not occur and the LUST sites would not be encountered during construction because construction activity would cease. Therefore, the No Project/No Development Alternative is superior compared to the proposed project in terms of hazards and hazardous materials. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hydrology and Water Quality

Under the No Project/No Development Alternative, there would be no hydrology and water quality impacts because construction activity would cease. The amount of pervious and impervious surfaces would remain the same as the current condition. Therefore, the No Project/No Development Alternative is considered superior when compared to the proposed project in terms of hydrology and water quality impacts. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Noise

Under the No Project/No Development Alternative, there would be no noise impacts because construction activity would cease. Most of the noise impacts identified under the proposed project area are related to construction. Therefore, the No Project/No Development Alternative is considered superior when compared to the proposed project in terms of noise impacts. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Population and Housing

Under the No Project/No Development Alternative, the campus would continue to operate under the existing condition and there would be no more construction to accommodate future student growth and instructional needs. There would be fewer instructional buildings and there would be no student housing on campus. The proposed project plans for future growth and provides opportunities for student enrichment through educational programming and the new facilities to meet those needs. Also, by envisioning student housing on campus, the college is moving in a new direction to create a resident population, which will enliven the campus and enrich learning opportunities for students, changing it from operating 4 days a week to 7 days per week. Neither the proposed project nor the No Project/No Development Alternative has population and housing impacts (e.g., induces significant population growth not envisioned in regional plans or causes the displacement of housing or people). Therefore, the No Project/No Development Alternative is considered neutral when compared to the proposed project in terms of population and housing impacts.

Public Services

Under the No Project/No Development Alternative, no more construction would occur on the campus and the existing Master Plan would not be built out. No public services impacts were identified in the previous EIR. Under the proposed project, there would be a need for additional fire and police services related to project campus growth and the student housing project on campus. However, these impacts were considered less than significant. Therefore, the No Project/No Development Alternative is considered superior when compared to the proposed project in terms of public services impacts. However, the No Project/No Development

Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Traffic and Circulation

Under the No Project/No Development Alternative, no more new construction would occur on the campus and the existing Master Plan would not be built out. No traffic impacts were identified in the previous EIR and there would be no traffic impacts under the proposed project. Therefore, the No Project/No Development Alternative is considered neutral when compared to the proposed project in terms of traffic impacts.

Utilities and Service Systems

Under the No Project/No Development Alternative, no more construction would occur on the campus and the existing Master Plan would not be build out. No utility and service system impacts were identified in the previous EIR. Under the proposed project, there would be a need for additional water, wastewater, and landfill services related to project campus growth and the student housing project on campus. However, these impacts were considered less than significant. Therefore, the No Project/No Development Alternative is considered superior when compared to the proposed project in terms of public services impacts. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Conclusion

The No Project/No Development Alternative would be considered environmentally superior in almost all resource areas. However, the No Project/No Development Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan. It would be environmentally inferior in Aesthetics (one area) and environmentally neutral in two areas area (Population and Housing and Traffic and Circulation). The adoption of the No Project/No Development Alternative would not meet the project objectives identified by the District for modernization of learning facilities and for campus growth through 2024. The No Project/No Development Alternative fails to accomplish the project objectives in the District's vision and while it has fewer environmental impacts, it does not move the campus forward into the 21st century and therefore, does not keep to its mission as a community college to continue to provide learning opportunities for the population or keep pace with economic and technological advances in the marketplace for which students need to be trained. The No Project/No Development Alternative does not accommodate future campus growth; it does not provide opportunities for on-campus housing; it does not provide entrepreneurial opportunities, and it does not address the need for additional parking on campus (new parking structure). The No

Project/No Development Alternative is, therefore, not considered environmentally superior to the proposed project because it does not meet the District's project objectives.

6.3.3 Full Preservation

In response to the finding that there is evidence of a historic district on campus (Ostashay 2015; Page & Turnbull 2015), a series of alternatives was developed to represent a range of preservation and reuse options.

The Full Preservation Alternative would retain, preserve and reuse all the structures that contribute to the historic district in the campus core as identified by Page & Turnbull. This plan is represented by Figure 6-1, Full Preservation Alternative. The plan shows that a number of contributors to the historic district (colored yellow), including the Science and Math Lecture Halls, Math Wing, Journalism, Haley Business Learning Center, Classrooms and Labs, the Forum, the Field House, Pools, and Pool Stadium would be saved and repurposed with different uses. The Robert B. Moore Theater is outside the campus core and the historic district, but it would also be preserved under all alternatives. The Plan also accommodates a new Planetarium and a new Dance program building. The new Planetarium would be moved from its proposed location and shifted north to allow the old Planetarium to be preserved in place. The adoption of the Full Preservation Alternative would not meet the project objectives identified by the District for modernization of learning facilities and for campus growth through 2024. The Full Preservation Alternative fails to accomplish the project objectives in the District's vision. The Full Preservation Alternative does not move the campus forward into the 21st century and therefore, does not keep to its mission as a community college to continue to provide learning opportunities for the population or keep pace with economic and technological advances in the marketplace for which students need to be trained.

Aesthetics

The Vision 2020 Facilities Master Plan focuses on opening up the inner core of campus to create defensible space and opportunities for better way finding on campus, it focuses on signage and development of more prominent campus entryways, and it proposes the construction of new buildings on campus that meet instructional needs but that are also aesthetically pleasing. The Full Preservation Alternative proposes the preservation and reuse of the Neutra and Alexander-designed structures in the inner core of campus. There would likely need to be a greater effort made to integrate new building design with the existing buildings' design, as well as an effort to restore the existing buildings in a way that preserves their historic integrity and removes visually offending elements, such as heating and air conditioning units that were placed on top of the classroom buildings. The Full Preservation Alternative is environmentally inferior to the proposed project in terms of aesthetics, because it would not allow the District to place the

Planetarium in its currently proposed location and squarely in the science zone, dance programs would not be close to the Robert B. Moore Theater and Music Classrooms, and it would not increase the navigability of the campus and increase wayfinding, or create defensible space and foster a sense of safety among campus users.

Air Quality

Because there would be less new construction under the Full Preservation Alternative, there would be fewer construction-related air-quality impacts. Operational impacts are expected to be very similar to the proposed project. Therefore, the Full Preservation Alternative is environmentally superior to the proposed project in terms of air-quality impacts. However, the Full Preservation Alternative does not meet the District’s project objectives of the Vision 2020 Educational and Facilities master plan.

Biological Resources

Under the Full Preservation Alternative, construction activity would be reduced, and there would likely be fewer potential impacts to nesting birds. Therefore, the Full Preservation Alternative would be considered environmentally superior to the Vision 2020 Facilities Master Plan with regard to biological resources. However, the Full Preservation Alternative does not meet the District’s project objectives of the Vision 2020 Educational and Facilities master plan.

Cultural Resources

The Full Preservation Alternative would focus on the preservation and reuse of structures in the central core of campus that comprise the OCC historic district. Because these buildings would be retained in place, the historic integrity of the district would remain, and historic resources impacts under this alternative would be considered less than significant. Because there would be less new construction, the potential for impacts to archaeological and paleontological resources would be less, although these impacts can be mitigated to a less-than-significant level under both the proposed project and the Full Preservation Alternative. Therefore, the Full Preservation Alternative would be considered environmentally superior with regard to cultural resources impacts because of the focus on retaining historic district contributors within the campus core and because it avoids a significant impact to historic resources. However, the Full Preservation Alternative does not meet the District’s project objectives of the Vision 2020 Educational and Facilities master plan.

Geology and Soils

Although construction activity would be reduced under the Full Preservation Alternative, the same number of students would likely be exposed to geology and soils impacts, including earthquakes, ground shaking, and liquefaction, regardless of whether they would be housed in a new or old building. The old buildings were designed after 1933 when it was required that school buildings meet the requirements of the Field Act. Furthermore, any efforts to restore and reuse the older buildings would involve a structural integrity analysis and increased cost related to any proposed reuse of the structures. Therefore, the Full Preservation Alternative would be considered environmentally neutral to the Vision 2020 Facilities Master Plan with regard to geology and soils impacts. However, the Full Preservation Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Greenhouse Gas Emissions

Less new construction would mean that there would be less construction-related greenhouse gas emissions. While the Vision 2020 Facilities Master Plan does not have significant greenhouse gas emissions impacts, there would be greater construction and operational impacts under the proposed project than the Full Preservation Alternative. Therefore, the Full Preservation Alternative is environmentally superior to the proposed project in terms of greenhouse gas emissions. However, the Full Preservation Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hazards and Hazardous Materials

Two LUST sites were identified on campus related to fuel releases to soils and both cases are closed. However, under the Vision 2020 Facilities Master Plan, impacted soils could be encountered during demolition and construction. Furthermore, due to the age of buildings planned for demolition, contaminated materials and hazardous substances, like lead-based paint or asbestos, could be released. These impacts would be less for the Full Preservation Alternative, because there would be no demolition of buildings in the inner core of campus although there may be some need to remediate any hazardous issues that would remain from preservation and reuse of the buildings. Therefore, the Full Preservation Alternative is superior compared to the proposed project in terms of hazards and hazardous materials. However, the Full Preservation Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hydrology and Water Quality

The proposed project and Full Preservation Alternative both have hydrology and water quality impacts that can be mitigated although there would be fewer impacts under the Full Preservation Alternative because there is less new construction. These impacts were primarily related to the potential for erosion and water quality impacts during construction. Therefore, the Full Preservation Alternative is considered superior when compared to the proposed project in terms of hydrology and water quality impacts. However, the Full Preservation Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Noise

The proposed project and Full Preservation Alternative both have noise impacts that can be mitigated. These impacts were primarily related to the potential for noise impacts during construction. Because the Full Preservation Alternative would have less new construction, it is likely there would be fewer noise impacts. Therefore, the Full Preservation Alternative is considered superior when compared to the proposed project in terms of noise impacts. However, the Full Preservation Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Population and Housing

Under the Full Preservation Alternative, fewer new instructional buildings would be constructed that have been identified as needed for the campus' future projected growth. The proposed project plans for future growth and provides opportunities for student enrichment through educational programming and the new facilities to meet those needs. While the proposed project does not have population and housing impacts (e.g., induce significant population growth not envisioned in regional plans or cause the displacement of housing or people), the Full Preservation Alternative does not meet the project objectives to plan for future growth with the construction of modern buildings that meet today's instructional needs, and significant resources would need to be expended to upgrade the older buildings in such a way that it will meet those instructional needs. As shown above in Table 6-1, the full preservation alternative is the most costly of the alternatives and it would cost almost $42 million additional dollars to what was anticipated in the bond. Despite this, the Full Preservation Alternative would not have population and housing impacts that would be significant under CEQA. Therefore, the Full Preservation Alternative is considered neutral when compared to the proposed project in terms of population and housing impacts.

Public Services

Under the proposed project, there would be a need for additional fire and police services related to project campus growth and the student housing project on campus, and it is anticipated that these impacts would be very similar under the Full Preservation Alternative because new programs would be housed in the existing buildings and new buildings would be constructed outside the campus core, still likely resulting in the need for additional fire and police services. These impacts were considered less than significant, and it can be assumed that this would be true for the Full Preservation Alternative, as well, because the need for these services is tied to projected growth more than the types of buildings that are being used. Therefore, the Full

Preservation Alternative is considered neutral when compared to the proposed project in terms of public services impacts.

Traffic and Circulation

Under the proposed project, there are no traffic impacts. Because projected growth under the Full Preservation Alternative is assumed to be very similar (the growth-inducing elements would still exist under this plan such as the student housing), traffic impacts are assumed to be similar. Therefore, the Full Preservation Alternative is considered neutral when compared to the proposed project in terms of traffic impacts.

Utilities and Service Systems

Under the proposed project, there would be a need for additional water, wastewater, and landfill services related to projected campus growth and the student housing project on campus. However, these impacts were considered less than significant. Because projected growth under the Full Preservation Alternative is assumed to be very similar (the growth inducing elements would still exist under this plan, such as the student housing), utility and service system impacts are assumed to be similar. Therefore, the Full Preservation Alternative is considered neutral when compared to the proposed project in terms of public services impacts.

Conclusion

The Full Preservation Alternative would be considered environmentally superior in Air Quality, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality and Noise (seven areas). It would be environmentally inferior in Aesthetics (one area) and environmentally neutral with regard to Geology and Soils, Population and Housing, Public Services, Traffic, and Utilities and Service Systems (five areas). The adoption of the Full Preservation Alternative would not meet the project objectives identified by the District for campus growth through 2024, and it does not allow the District to locate the Planetarium in its currently proposed location and squarely in the science zone, place dance programs close to the Robert B. Moore Theater, increase the navigability of the campus and increase wayfinding, or create defensible space and foster a sense of safety among campus users. The cost to preserve all the Neutra and Alexander designed buildings in the campus core diverts significant public funds (approximately $42 million) from the construction of badly needed new instruction buildings to meet the educational goals for the campus which was approved by voters under Measure M. Therefore, the Full Preservation Alternatives deviates from communication to constituents on how Measure M dollars would be spent. The Full Preservation Alternative fails to fully accomplish the project objectives in the District's vision but has fewer environmental impacts than the proposed project. Because the Full Preservation Alternative avoids a significant impact to historic resources, it is environmentally superior to the proposed project. However, the Full Preservation Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

6.3.4 Maximum Reuse

The Maximum Reuse Alternative, as represented in Figure 6-2, highlights the preservation and reuse of key contributing historic structures in the campus core and requires the new Planetarium to be moved north of its planned location. The primary difference between this alternative and the Full Preservation Alternative is that under this alternative, the Pool and Field House would not be preserved and instead a new Adaptive PE/Gym/Pool complex would be constructed west of the stadium. All the other buildings identified in the campus core under the Full Preservation Alternative would be preserved under this alternative.

The adoption of the Maximum Reuse Alternative would not meet the project objectives identified by the District for modernization of learning facilities and for campus growth through 2024. The Maximum Reuse Alternative fails to accomplish the project objectives in the District's vision. The Maximum Reuse Alternative does not move the campus forward into the 21st century, and therefore, does not keep to its mission as a community college to continue to provide learning opportunities for the population or keep pace with economic and technological advances in the marketplace for which students need to be trained.

Aesthetics

The Vision 2020 Facilities Master Plan focuses on opening up the inner core of campus to create defensible space and opportunities for better way finding on campus, it focuses on signage and the development of more prominent campus entryways, and it proposes the construction of new buildings on campus that meet instructional needs but that are also aesthetically pleasing. The Maximum Reuse Alternative proposes the preservation and reuse of key historic district contributing structures in the inner core. There would likely need to be a greater effort made to integrate new building design with the existing buildings' design, as well as an effort to restore the existing buildings in a way that preserves their historic integrity and removes visually offending elements, such as heating and air conditioning units that were placed on top of the classroom buildings. However, the Maximum Reuse Alternative is environmentally inferior to the proposed project in terms of aesthetics, because it requires that the Planetarium be moved from its currently proposed location, does not address the dance program requirements of being close to the Robert B. Moore Theater, does not remove the row buildings to create greater navigability of the campus and enhance wayfinding, or create defensible spaces and foster a sense of safety among campus users.

Therefore, the Maximum Reuse Alternative is environmentally inferior to the proposed project in terms of aesthetics, because it does not meet the project objectives of the Vision 2020 Educational and Facilities Master Plan.

Air Quality

Because there would be slightly less new construction (and demolition) under the Maximum Reuse Alternative, there would be fewer construction-related air quality impacts. Therefore, the Maximum Reuse Alternative is environmentally superior to the proposed project in terms of air quality impacts. However, the Maximum Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Biological Resources

Under the Maximum Reuse Alternative, construction activity would be reduced, and there would likely be fewer potential impacts to nesting birds. Therefore, the Maximum Reuse Alternative would be considered environmentally superior to the Vision 2020 Facilities Master Plan with regard to biological resources. However, the Maximum Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Cultural Resources

The Maximum Reuse Alternative would focus on preservation and reuse of key structures in the central core of campus that comprise the historic district but the Maximum Reuse Alternative would still allow for removal of the field house and pool which has been identified as part of a historic district, although a discontiguous historic district. Because there would be less new construction, the potential for impacts to archaeological and paleontological resources would be less, although these impacts can be mitigated to a less-than-significant level under both the proposed project and the Maximum Reuse Alternative. Therefore, the Maximum Reuse Alternative would be considered environmentally neutral to the proposed project with regard to cultural resources impacts because it does not avoid a significant impact under CEQA. The Maximum Reuse Alternative also does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Geology and Soils

Although construction activity would be reduced under the Maximum Reuse Alternative, the same number of students would likely be exposed to geology and soils impacts, including earthquakes, ground shaking, and liquefaction, regardless of whether they would be housed in a new or old building. The old buildings were designed after 1933 when it was required that school buildings meet the requirements of the Field Act. Furthermore, any efforts to restore and reuse the older buildings would involve a structural integrity analysis related to any proposed reuse of the structures. Therefore, the Maximum Reuse Alternative would be considered environmentally neutral to the Vision 2020 Facilities Master Plan with regard to geology and soils impacts.

Greenhouse Gas Emissions

Less new construction would mean that there would be less construction-related greenhouse gas emissions. While the Vision 2020 Facilities Master Plan does not have significant greenhouse gas emissions impacts, there would be greater construction and operational impacts under the proposed project than the Maximum Reuse Alternative. Therefore, the Maximum Reuse Alternative is environmentally superior to the proposed project in terms of greenhouse gas emissions. However, the Maximum Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hazards and Hazardous Materials

Two LUST sites were identified on campus related to fuel releases to soils, and both cases are closed. However, under the Vision 2020 Facilities Master Plan, impacted soils could be encountered during demolition and construction. Furthermore, due to the age of buildings planned for demolition, contaminated materials and hazardous substances, like lead-based paint or asbestos, could be released. These impacts would be less for the Maximum Reuse Alternative, because there would be less demolition of buildings in the inner core of campus. However, there is no impact under the proposed project or the Maximum Reuse Plan Alternative so this alternative is neutral compared to the proposed project in terms of hazards and hazardous materials. Finally, the Maximum Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hydrology and Water Quality

The proposed project and Maximum Reuse Alternative both have hydrology and water quality impacts that can be mitigated, although there would be fewer impacts under the Maximum Reuse Alternative, because there is less new construction. These impacts were primarily related to the potential for erosion and water quality impacts during construction. However, impacts could be mitigated under the proposed project and the Maximum Reuse Alternative. Therefore the Maximum Reuse Alternative is considered neutral when compared to the proposed project in terms of hydrology and water quality impacts. However, the Maximum Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Noise

The proposed project and Maximum Reuse Alternative both have noise impacts that can be mitigated. These impacts were primarily related to the potential for noise impacts during construction. Because the Maximum Reuse Alternative would have less new construction, it is likely there would be fewer noise impacts. However, noise impacts under the Maximum Reuse and the proposed project can be mitigated to less than significant. Therefore, the Maximum Reuse Alternative is considered neutral when compared to the proposed project in terms of noise impacts.

Population and Housing

Under the Maximum Reuse Alternative, fewer new instructional buildings would be constructed that have been identified as needed for the campus' future projected growth. The proposed project plans for future growth and provides opportunities for student enrichment through educational programming and the new facilities to meet those needs. The Maximum Reuse Alternative does not meet the project objectives to plan for future growth by construction of modern buildings that meet today's instructional needs Instead, funds would be required to restore and update the existing buildings which may or may not meet the instructional needs. Despite this, the Maximum Reuse Alternative would not have population and housing impacts that would be significant under CEQA. Therefore, the Maximum Reuse Alternative is considered neutral when compared to the proposed project in terms of population and housing impacts.

Public Services

Under the proposed project, there would be a need for additional fire and police services related to project campus growth and the student housing project on campus, and it is anticipated that these impacts would be very similar under the Maximum Reuse Alternative. These impacts were considered less than significant, and it can be assumed that this would be true for the Maximum Reuse Alternative, as well, because the need for these services is tied to projected growth more than the types of buildings that are being used. Therefore, the Maximum Reuse Alternative is considered neutral when compared to the proposed project in terms of public services impacts.

Traffic and Circulation

Under the proposed project, there would be a significant impact prior to mitigation at the Harbor Boulevard and Adams Avenue intersection in the future condition, including the project-generated trips. Because projected growth under the Maximum Reuse Alternative is assumed to be very similar (the growth inducing elements would still exist under this plan, such as the student housing), traffic impacts are assumed to be similar. Therefore, the Maximum Reuse Alternative is considered neutral when compared to the proposed project in terms of traffic impacts.

Utilities and Service Systems

Under the proposed project, there would be a need for additional water, wastewater, and landfill services related to project campus growth and the student housing project on campus. However, these impacts were considered less than significant. Because projected growth under the Maximum Reuse Alternative is assumed to be very similar (the growth inducing elements would still exist under this plan, such as the student housing), utility and service system impacts are assumed to be similar. Therefore, the Maximum Reuse Alternative is considered neutral when compared to the proposed project in terms of public services impacts.

Conclusion

The Maximum Reuse Alternative would be considered environmentally superior in Air Quality, Biological Resources, Cultural Resources, and Greenhouse Gas Emissions, (four areas). However, the Maximum Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan. It would be environmentally inferior one area (Aesthetics), and it would be environmentally neutral with regard to Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Traffic, and Utilities and Service Systems (eight areas). The Maximum Reuse Alternative does not allow the District to locate the Planetarium in its currently proposed location and squarely in the science zone, adequately address dance programs in a location near the Robert B. Moore Theater or address campus navigation, safe zones, and security concerns. While the Maximum Reuse Alternative preserves key historic structures in the campus core and as a result, it has fewer environmental impacts than the proposed project, it does have impacts to other Neutra designed buildings in the discontiguous historic district; therefore it does not avoid a CEQA impact to resources identified as historic contributors.

6.3.5 Majority Reuse

The Majority Reuse Alternative, as represented by Figures 6-3, highlights the preservation and reuse of buildings in the campus core. The primary difference between this alternative and the Maximum Reuse Alternative is that the Science Wing would be partially removed to accommodate the new Planetarium in its currently approved location.

The adoption of the Majority Reuse Alternative would not meet the project objectives identified by the District for modernization of learning facilities and for campus growth through 2024. The Majority Reuse Alternative fails to accomplish the project objectives in the District's vision. The Majority Reuse Alternative does not move the campus forward into the 21st century and therefore, does not keep to its mission as a community college to continue to provide learning opportunities for the population or keep pace with economic and technological advances in the marketplace for which students need to be trained.

Aesthetics

The Vision 2020 Facilities Master Plan focuses on opening up the inner core of campus to create defensible space and opportunities for better way finding on campus; it focuses on signage and development of more prominent campus entryways; and it proposes the construction of new buildings on campus that meet instructional needs but that are also aesthetically pleasing. The Majority Reuse Alternative proposes the preservation and reuse of contributing structures in the inner core but proposes the removal of a portion of the Science Wing to accommodate the new Planetarium in its currently approved location. The Majority Reuse Alternative does not meet the program objectives of moving the Dance program closer to the Robert B. Moore Theater. This alternative also still impacts historic structures in the inner core of campus although to a lesser extent than the proposed project. While the Majority Reuse Alternative preserves key historic structures in the campus core and as a result, it has fewer environmental impacts than the proposed project, it does have impacts to Neutra designed buildings in the historic district; therefore it does not avoid a CEQA impact to resources identified as historic contributors. Therefore, the Majority Reuse Alternative is neutral to the proposed project in terms of aesthetics.

Air Quality

Because there would be slightly less new construction under the Majority Reuse Alternative, there would be fewer construction-related air quality impacts. Therefore, the Majority Reuse Alternative is environmentally superior to the proposed project in terms of air quality impacts. However, the Majority Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Biological Resources

Under the Majority Reuse Alternative, construction activity would be reduced, and there would likely be fewer potential impacts to nesting birds. Therefore, the Majority Reuse Alternative would be considered environmentally superior to the Vision 2020 Facilities Master Plan with regard to biological resources. However, the Majority Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Cultural Resources

The Majority Reuse Alternative would focus on preservation and reuse of structures in the central core of campus and would result in the partial removal of the Science Wing to accommodate the new Planetarium in its currently approved location. Although it preserves a portion of the Math Wing row building, it does not avoid a significant impact to historic resources. Because there would be less new construction, the potential for impacts to archaeological and paleontological resources would be less, although these impacts can be mitigated to a less-than-significant level under both the proposed project and the Minimal Reuse Alternative. Therefore, the Majority Reuse Alternative would be considered environmentally neutral with regard to cultural resources impacts, because even though it would preserve more structures in the historic district, it would not avoid a significant impact to historic resources. Finally, the Majority Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Geology and Soils

Although construction activity would be reduced under the Majority Reuse Alternative, the same number of students would likely be exposed to geology and soils impacts, including earthquakes, ground shaking, and liquefaction, regardless of whether they would be housed in a new or old building. The old buildings were designed after 1933 when it was required that school buildings meet the requirements of the Field Act. Furthermore, any efforts to restore and reuse the older buildings would involve a structural integrity analysis related to any proposed reuse of the structures. Therefore, the Majority Reuse Alternative would be considered environmentally neutral to the Vision 2020 Facilities Master Plan with regard to geology and soils impacts.

Greenhouse Gas Emissions

Less new construction would mean that there would be less construction-related greenhouse gas emissions. While the Vision 2020 Facilities Master Plan does not have significant greenhouse gas emissions impacts, there would be greater construction and operational impacts under the proposed project than the Majority Reuse Alternative. Therefore, the Majority Reuse Alternative is environmentally superior to the proposed project in terms of greenhouse gas emissions. However, the Majority Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hazards and Hazardous Materials

Two LUST sites were identified on campus related to fuel releases to soils, and both cases are closed. However, under the Vision 2020 Facilities Master Plan, impacted soils could be encountered during demolition and construction. Furthermore, due to the age of buildings planned for demolition, contaminated materials and hazardous substances like lead-based paint or asbestos could be released. These impacts would be less for the Majority Reuse Alternative, because fewer buildings are proposed for removal. However, these impacts can be mitigated under both the proposed project and the Majority Reuse Alternative. Therefore, the Majority Reuse Alternative is neutral compared to the proposed project in terms of hazards and hazardous materials. Finally, the Majority Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hydrology and Water Quality

The proposed project and Majority Reuse Alternatives both have hydrology and water quality impacts that can be mitigated, although there would be fewer impacts under the Majority Reuse Alternative, because there is less new construction. These impacts were primarily related to the potential for erosion and water quality impacts during construction. Majority Therefore, the Majority Reuse Alternative is considered neutral when compared to the proposed project in terms of hydrology and water quality impacts. Finally, the Majority Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Noise

The proposed project and Majority Reuse Alternatives both have noise impacts that can be mitigated. These impacts were primarily related to the potential for noise impacts during construction. The Majority Reuse Alternative would have noise impacts that are very similar to the proposed project. Therefore, the Majority Reuse Alternative is considered neutral when compared to the proposed project in terms of noise impacts.

Population and Housing

Under the Majority Reuse Alternative, fewer new instructional buildings would be constructed that have been identified as needed for the campus' future projected growth. The proposed project plans for future growth and provides opportunities for student enrichment through educational programming and the new facilities to meet those needs. The Majority Reuse Alternative does meet the project objectives to plan for future growth with construction of modern buildings that meet today's instructional needs. Funds would be required to restore and update the existing buildings which may or may not meet all the college's instructional needs. The Majority Reuse Alternative would not have population and housing impacts that would be significant under CEQA. Therefore, the Majority Reuse Alternative is considered neutral when compared to the proposed project in terms of population and housing impacts.

Public Services

Under the proposed project, there would be a need for additional fire and police services related to project campus growth and the student housing project on campus, and it is anticipated that these impacts would be very similar under the Majority Reuse Alternative. These impacts were considered less than significant, and it can be assumed that this would be true for the Majority Reuse Alternative, as well, because the need for these services is tied to projected growth more than the types of buildings that are being used. Therefore, the Majority Reuse Alternative is considered neutral when compared to the proposed project in terms of public services impacts.

Traffic and Circulation

Under the proposed project, there are no traffic impacts. Because projected growth under the Majority Reuse Alternative is assumed to be very similar (the growth inducing elements would still exist under this plan, such as the student housing and mixed use components), traffic impacts are assumed to be similar. Therefore, the Majority Reuse Alternative is considered neutral when compared to the proposed project in terms of traffic impacts.

Utilities and Service Systems

Under the proposed project, there would be a need for additional water, wastewater, and landfill services related to project campus growth and the student housing project on campus. However, these impacts were considered less than significant. Because projected growth under the Majority Reuse Alternative is assumed to be very similar (the growth inducing elements would still exist under this plan such as the student housing), utility and service system impacts are assumed to be similar. Therefore, the Majority Reuse Alternative is considered neutral when compared to the proposed project in terms of utilities impacts.

Conclusion

The Majority Reuse Alternative would be considered environmentally superior in Air Quality, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Quality (four areas). However, the Majority Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan. It would be not be environmentally inferior in any areas, and it would be environmentally neutral with regard to Aesthetics, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Traffic, and Utilities and Service Systems (nine areas). The adoption of the Majority Reuse Alternative could meet the project objectives identified by the District for campus growth through 2024, because it allows for the new Planetarium to be constructed in its currently planned location; however it does not address the dance programs in location to the Robert B. Moore Theater. Because the Maximum Reuse Alternative has fewer environmental impacts, it is environmentally superior to the proposed project. However, the Majority Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

The adoption of the Majority Reuse Alternative would not meet all the project objectives identified by the District for campus growth through 2024, with new instruction buildings to meet the educational goals for the campus in the inner core. The Maximum Reuse Alternative preserves key historic structures and as a result, it has fewer environmental impacts than the proposed project, but at a greater cost than anticipated in the bond. The cost to preserve and adaptively reuse historic structures is also a key consideration for the District as the costs to rehabilitate and reuse the Neutra buildings was not anticipated in the bond, are costs that were not communicated to the voters, and do not meet the college's instructional facility goals as specified in Chapter 3, Project Description. Cost is not a deciding factor for feasibility of an alternative, but it is heavily considered in the feasibility of that alternative.

6.3.6 Significant Reuse

The Significant Reuse Alternative is represented by Figure 6-4. This alternative includes the preservation and reuse of two row buildings in the campus core: the Business Education Wing and the Classroom and Labs Building. The primary difference between this alternative and the Majority Reuse Alternative is that the Math/Science Wing and existing Planetarium would be demolished to accommodate the new Planetarium in its currently approved location. The Significant Reuse Alternative does not address adequately address the dance program or the 21st century classroom needs. The Significant Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan

Aesthetics

The Vision 2020 Facilities Master Plan focuses on opening up the inner core of campus to create defensible space and opportunities for better way finding on campus; it focuses on signage and development of more prominent campus entryways; and it proposes the construction of new buildings on campus that meet instructional needs but that are also aesthetically pleasing. The Significant Reuse Alternative proposes the preservation and reuse of two contributing structures in the inner core but proposes the removal of the Science Wing to accommodate the new Planetarium in its currently approved location. The Significant Reuse Alternative is environmentally superior to the proposed project in terms of aesthetics, because it would integrate two additional historically significant buildings in the campus core with the new buildings in a way that would enhance the contributing features of the historic buildings. However, the Significant Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan, and it does not avoid a CEQA significant impact to historic resources. This alternative is neutral compared to the proposed project.

Air Quality

Because there would be slightly less new construction under the Significant Reuse Alternative, there would be fewer construction-related air quality impacts. Therefore, the Significant Reuse Alternative is environmentally superior to the proposed project in terms of air quality impacts. However, the Significant Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Biological Resources

Under the Significant Reuse Alternative, construction activity would be reduced, and there would likely be fewer potential impacts to nesting birds. Therefore, the Significant Reuse Alternative would be considered environmentally superior to the Vision 2020 Facilities Master Plan with regard to biological resources. However, the Significant Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Cultural Resources

The Significant Reuse Alternative would focus on preservation and reuse of two additional structures in the central core of campus. Because there would be less new construction, the potential for impacts to archaeological and paleontological resources would be less, although these impacts can be mitigated to a less-than-significant level under both the proposed project and the Significant Reuse Alternative. However, the Significant Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan. This alternative still has significant adverse impacts to historic resources and even though the Significant Reuse Alternative preserves more buildings than the proposed project, it would be considered environmentally neutral with regard to cultural resources impacts because it does not avoid a significant impact to historic resources like the proposed project.

Geology and Soils

Although construction activity would be reduced under the Significant Reuse Alternative, the same number of students would likely be exposed to geology and soils impacts, including earthquakes, ground shaking, and liquefaction, regardless of whether they would be housed in a new or old building. The old buildings were designed after 1933 when it was required that school buildings meet the requirements of the Field Act. Furthermore, any efforts to restore and reuse the older buildings would involve a structural integrity analysis related to any proposed reuse of the structures. Therefore, the Significant Reuse Alternative would be considered environmentally neutral to the Vision 2020 Facilities Master Plan with regard to geology and soils impacts.

Greenhouse Gas Emissions

Less new construction would mean that there would be less construction-related greenhouse gas emissions. While the Vision 2020 Facilities Master Plan does not have significant greenhouse gas emissions impacts, there would be greater construction and operational impacts under the proposed project than the Significant Reuse Alternative. Therefore, the Significant Reuse Alternative is environmentally superior to the proposed project in terms of greenhouse gas emissions. However, the Significant Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Hazards and Hazardous Materials

Two LUST sites were identified on campus related to fuel releases to soils, and both cases are closed. However, under the Vision 2020 Facilities Master Plan, impacted soils could be encountered during demolition and construction. Furthermore, due to the age of buildings planned for demolition, contaminated materials and hazardous substances like lead-based paint or asbestos could be released. While there would be fewer buildings proposed for removal under the Significant Reuse Alternative as compared to the proposed project, the Significant Reuse Alternative has hazardous materials impacts that can be mitigated similar to the proposed project. Therefore, the Significant Reuse Alternative is neutral compared to the proposed project in terms of hazards and hazardous materials impacts.

Hydrology and Water Quality

The proposed project and Significant Reuse Alternatives both have hydrology and water quality impacts that can be mitigated, although there would be fewer impacts under the Majority Reuse Alternative, because there is slightly less construction. These impacts were primarily related to the potential for erosion and water quality impacts during construction. Therefore, the Significant Reuse Alternative is considered neutral when compared to the proposed project in terms of hydrology and water quality impacts. However, the Significant Reuse Alternative does not meet the District's project objectives of the Vision 2020 Educational and Facilities master plan.

Noise

The proposed project and Significant Reuse Alternatives both have noise impacts that can be mitigated. These impacts were primarily related to the potential for noise impacts during construction. The Significant Reuse Alternative would have noise impacts that are very similar to the proposed project. Therefore, the Significant Reuse Alternative is considered neutral when compared to the proposed project in terms of noise impacts.

Population and Housing

Under the Significant Reuse Alternative, fewer new instructional buildings would be constructed that have been identified as needed for the campus' future projected growth. The proposed project plans for future growth and provides opportunities for student enrichment through educational programming and the new facilities to meet those needs. The Significant Reuse Alternative does meet the project objectives to plan for future growth with construction of modern buildings that meet today's instructional needs and funds would be required to restore and update the Business Education Wing and C&L buildings which may or may not meet all the college's identified project objectives. Despite this, the Significant Reuse Alternative would not have population and housing impacts that would be significant under CEQA. Therefore, the

Significant Reuse Alternative is considered neutral when compared to the proposed project in terms of population and housing impacts.

Public Services

Under the proposed project, there would be a need for additional fire and police services related to project campus growth and the student housing project on campus, and it is anticipated that these impacts would be very similar under the Significant Reuse Alternative. These impacts were considered less than significant, and it can be assumed that this would be true for the Significant Reuse Alternative, as well, because the need for these services is tied to projected growth more than the types of buildings that are being used. Therefore, the Significant Reuse Alternative is considered neutral when compared to the proposed project in terms of public services impacts.

Traffic and Circulation

Under the proposed project, there are no traffic impacts. Because projected growth under the Significant Reuse Alternative is assumed to be very similar (the growth inducing elements would still exist under this plan, such as the student housing and mixed use components), traffic impacts are assumed to be similar. Therefore, the Significant Reuse Alternative is considered neutral when compared to the proposed project in terms of traffic impacts.

Utilities and Service Systems

Under the proposed project, there would be a need for additional water, wastewater, and landfill services related to project campus growth and the student housing project on campus. However, these impacts were considered less than significant. Because projected growth under the Significant Reuse Alternative is assumed to be very similar (the growth inducing elements would still exist under this plan such as the student housing), utility and service system impacts are assumed to be similar. Therefore, the Significant Reuse Alternative is considered neutral when compared to the proposed project in terms of utilities impacts.

Conclusion

The Significant Reuse Alternative would be considered environmentally superior in Air Quality, Biological Resources, Greenhouse Gas Emissions, (three areas). It would be not be environmentally inferior in any areas, and it would be environmentally neutral with regard to Aesthetics, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Traffic, and Utilities and Service Systems (ten areas). The adoption of the Significant Reuse Alternative could meet some of the project objectives identified by the District for campus growth through 2024 because it allows for the new Planetarium to be constructed in its currently planned location, it opens up lines of sight and enhances navigability while fostering a greater sense of safety among campus users. Because the Significant Reuse Alternative has fewer environmental impacts, it is environmentally superior to the proposed project.

The adoption of the Significant Reuse Alternative would not meet all of the project objectives identified by the District for campus growth through 2024, with new instruction buildings to meet the educational goals for the campus in the inner core. The Significant Reuse Alternative preserves key historic structures and as a result, it has fewer environmental impacts than the proposed project, but at a greater cost than anticipated in the bond. Because the Maximum Reuse Alternative has fewer environmental impacts, it is environmentally superior to the Vision 2020 proposed project.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The following is a discussion of the campus plan alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this PEIR. Any plan that could not accommodate the new proposed planetarium or proposed dance programs was eliminated from further consideration, because the planetarium and Dance Building are key projects for Orange Coast College. The planetarium would support the college's curriculum, as well as K-12 students and the community. The project is expected to draw a significant number of visitors to the campus. Its placement is intended to enhance and define the Science Zone of the campus, and it would anchor the western edge of the campus quad with a highly visible and iconic structure. The alternatives consider the new Planetarium in two locations, one in its originally planned location in the core of campus, and the second location to the north of the campus core in order to avoid an impact to Neutra buildings.

The cost to preserve and adaptively reuse historic structures is also a key consideration for the District as the costs to rehabilitate and reuse the Neutra buildings was not anticipated in the bond, are costs that were not communicated to the voters, and does not meet the college's instructional facility goals as specified in Chapter 3, Project Description. Cost is not a deciding factor for feasibility of an alternative, but it is heavily considered in the feasibility of that alternative.

Table 6-2 shows that the environmentally superior alternative under CEQA is the No Project/No Development Alternative. However, when the No Project Alternative is environmentally superior, CEQA mandates another alternative be identified (14 CCR 15126.6(e)(2)). The environmentally superior alternative is the Full Preservation Alternative because it does not demolish any of the historically significant Neutra and Alexander buildings on the campus and it envisions/proposes adaptive reuse of these buildings. As a result, it avoids a significant and unavoidable impact to historic resources. However, the Full Preservation does not meet most of the District objectives or project objectives of the Vision 2020 Educational and Facilities master plan.

Table 6-2
Comparison of Alternatives

Impact	No Project/ Existing Master Plan	No Project/ No Development	Full Preservation	Maximum Reuse	Majority Reuse	Significant Reuse
Aesthetics	-1	-1	-1	-1	0	0
Air Quality	+1	+1	+1	+1	+1	+1
Biological Resources	+1	+1	+1	+1	+1	+1
Cultural Resources	0	+1	+1	0	0	0
Geology and Soils	+1	+1	0	0	0	0
Greenhouse Gas Emissions	+1	+1	+1	+1	+1	+1
Hazards and Hazardous Materials	0	+1	+1	0	0	0
Hydrology and Water Quality	0	+1	+1	0	0	0
Noise	0	+1	+1	0	0	0
Population and Housing	0	0	0	+1	+1	0
Public Services	0	+1	0	0	0	0
Traffic and Circulation	0	0	0	0	0	0
Utilities and Service Systems	0	+1	0	0	0	0
Total (environmentally superior only)	4	10	7	4	4	3
Eliminates a Significant Impact of the Proposed Project	No	Yes	Yes	No	No	No

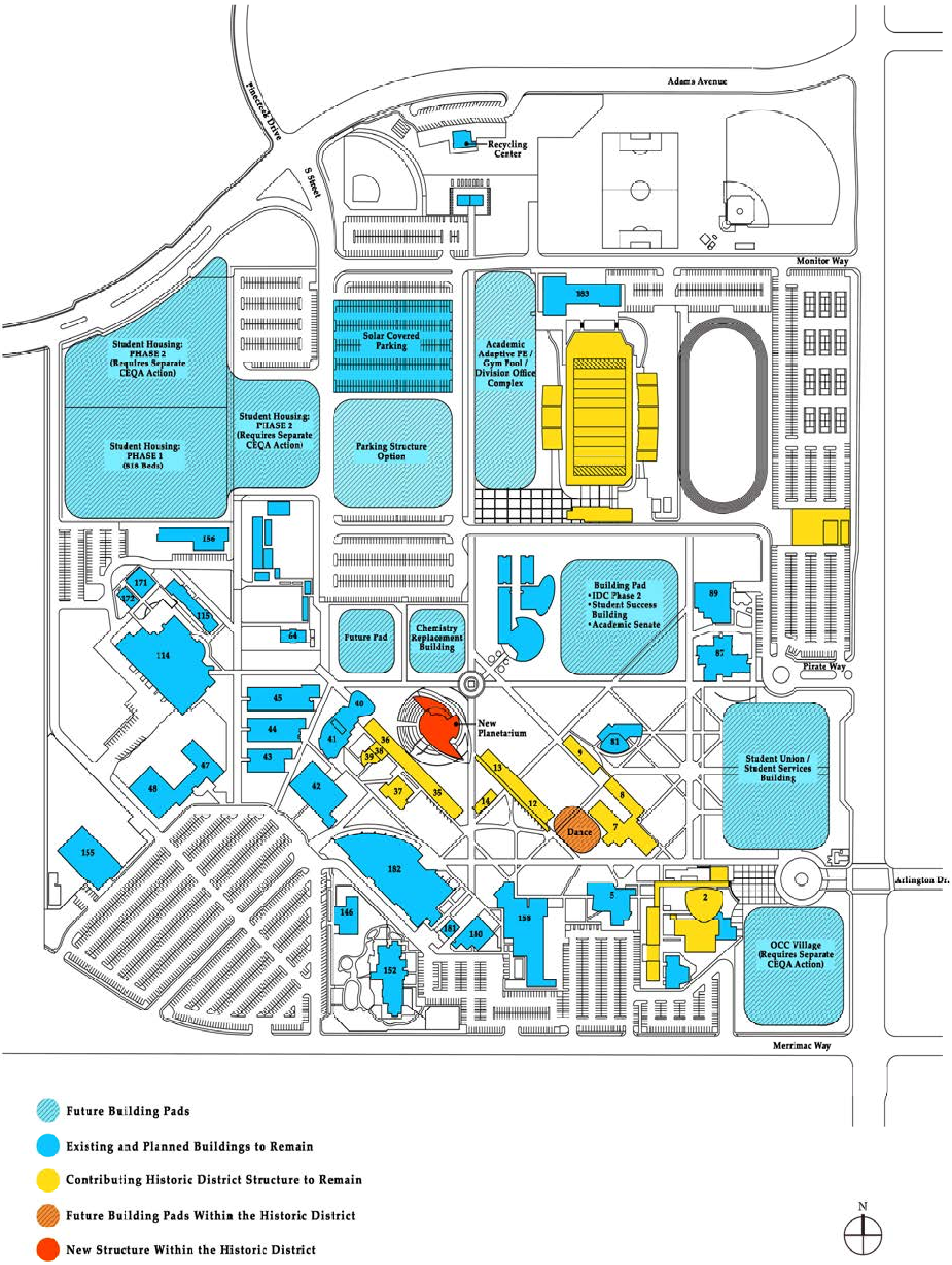
0 = environmentally neutral; -1 = environmentally inferior; +1 = environmentally superior

6.5 REFERENCES

District (Coast Community College District). 2011. *Vision 2020 Facilities Master Plan*. Prepared by Cambridge West Partnership LLC and Hill Partnership Inc. May 2011.

Ostashay and Associates. 2015. Historic Resources Technical Report. Prepared for Orange Coast College. August 2015.

Page & Turnbull. 2015. Historic Structures Report. Prepared for Orange Coast College. May 2015.



SOURCE: HPI Architecture, 08/2015.

FIGURE 6-1
Full Preservation

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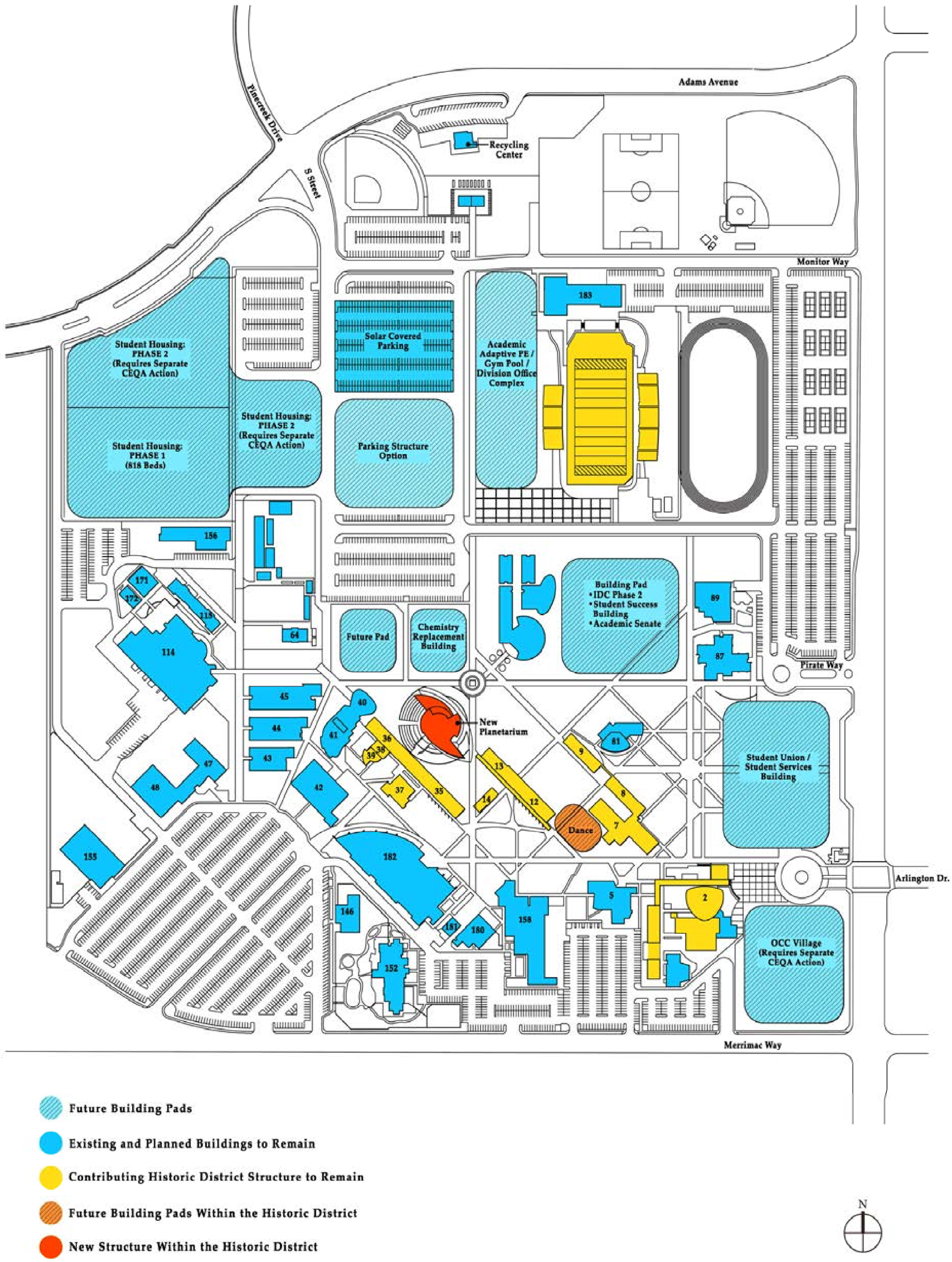

SOURCE: HPI Architecture, 08/2015.

FIGURE 6-2
Maximum Reuse

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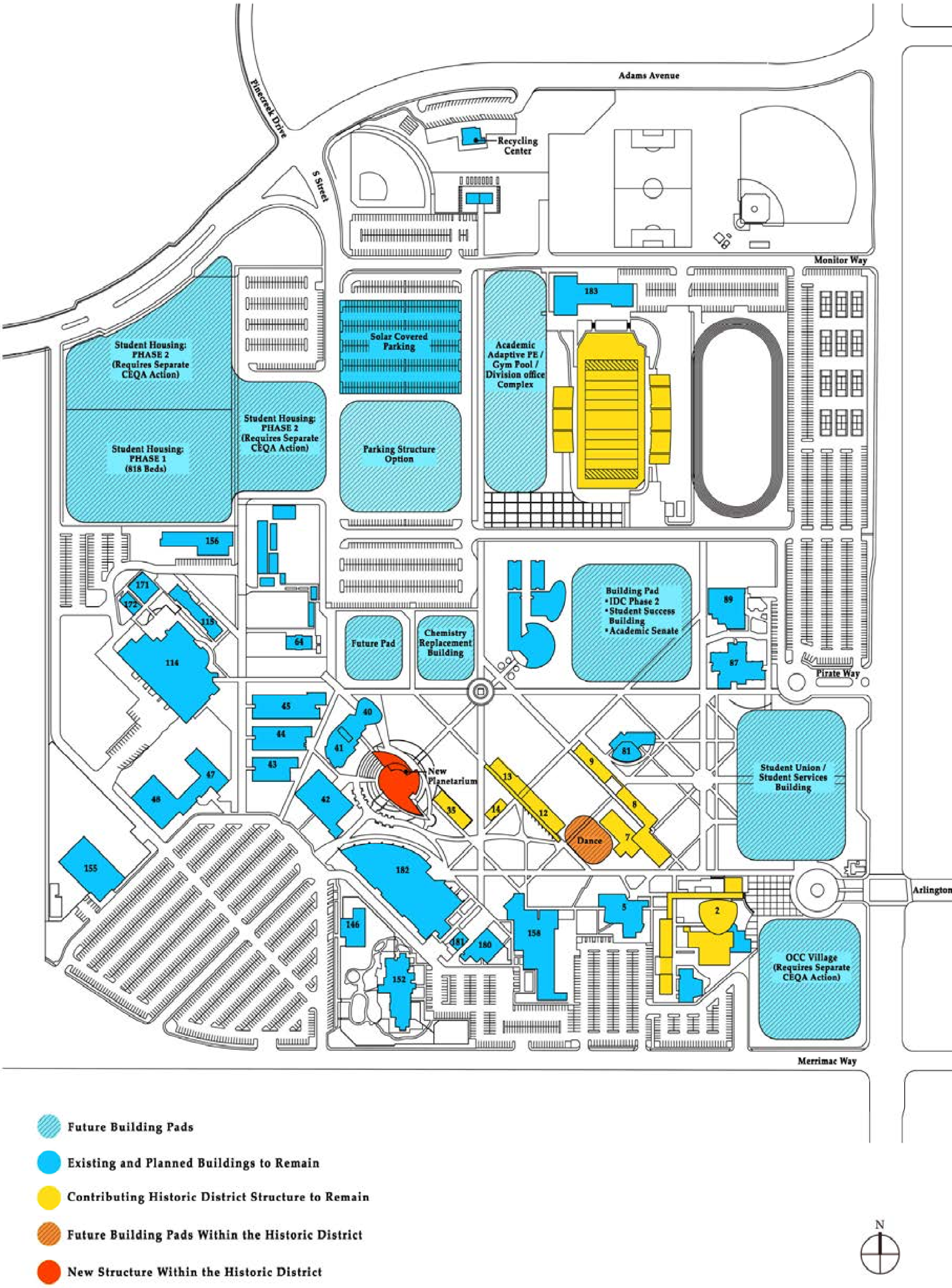

SOURCE: HPI Architecture, 08/2015.

FIGURE 6-3
Majority Reuse

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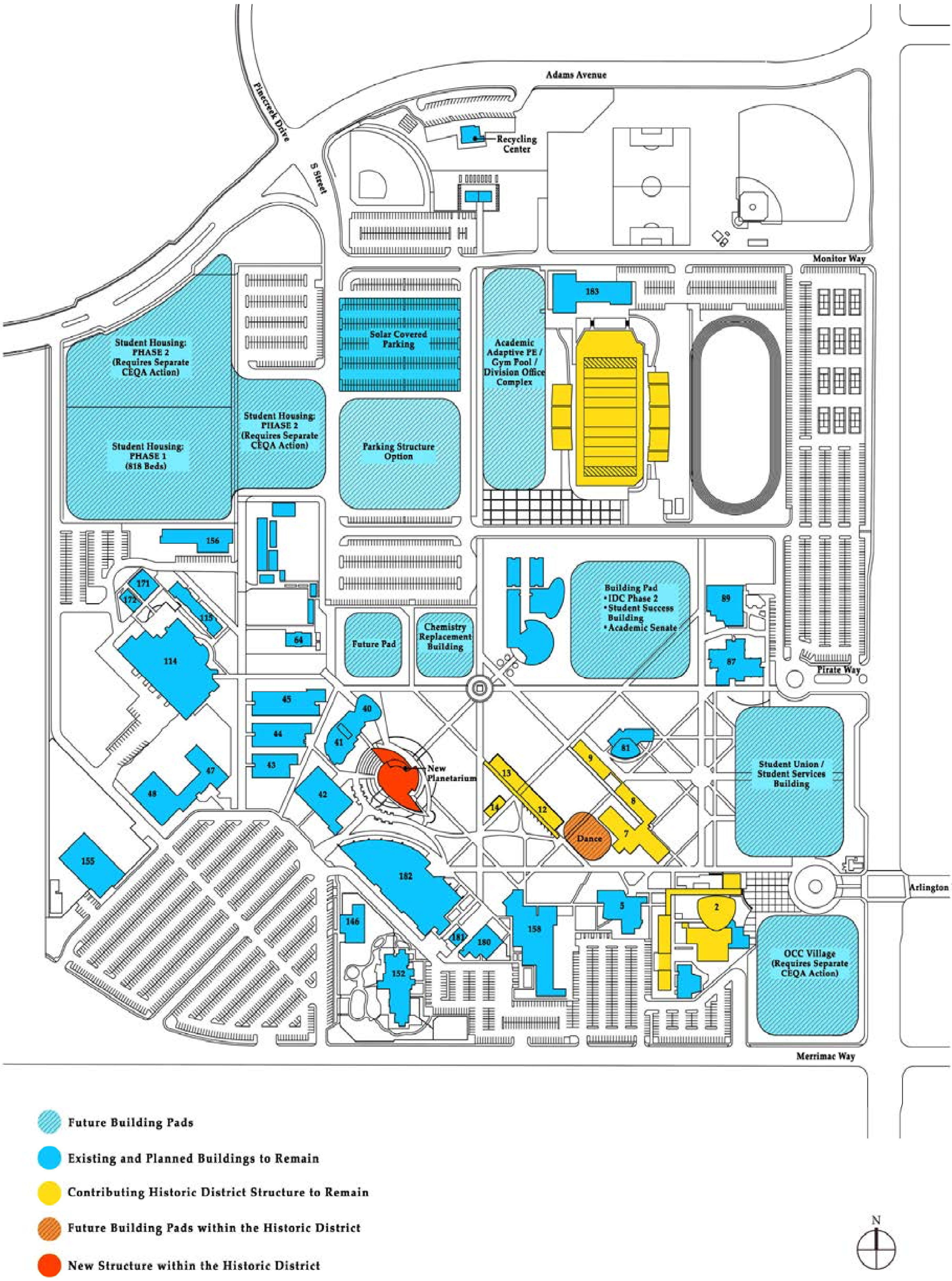

SOURCE: HPI Architecture, 08/2015.

FIGURE 6-4
Significant Reuse

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CHAPTER 7
LIST OF PREPARERS

This section identifies individuals who prepared the Orange Coast College Vision 2020 Facilities Master Plan Recirculated Draft Program Environmental Impact Report (PEIR). Individuals are identified by name, education, and primary contribution to the document.

7.1 ORANGE COAST COLLEGE

Name	Education/Experience	Responsibility
Jerry Marchbank	M.B.A., Organizational Leadership B.A., Finance 10 years Higher Education Leadership 6 years Higher Ed Facilities/Construction Program Management	Program Manager, CEQA Compliance, and QA/QC; Senior Director of Facilities, Planning, and Construction
Richard Pagel	Ed.D., Higher Education Leadership M.S., Information Technology B.A., Industrial & Organizational Psychology 19 years Higher Education Leadership 10 Commercial Banking	Program Manager, QA/QC; Vice President of Administrative Services
Dennis Reid	BS Civil Engineering MPA Public Administration Registered Professional Engineer 11 years' public agency management experience 34 years' program/construction management experience	Measure M Program Manager; Construction Information and Phasing
James Farrow	BA History 27 years' Federal Government 8 years' Higher Education	Accounting/Fiscal Specialist; Existing and Proposed Facilities Square Footage
Mike Carey	AA 31 years' professional experience	Sustainability Coordinator; Recycling Center and Solid Waste Information
Mark Goode	29 years' professional experience	Director of Maintenance and Operations; Existing Campus Utility Information
Randy Key	AA 37 years' professional experience	Energy Management Coordinator; Existing Campus Utility Information
Jorge Sanchez	26 years' professional experience	Maintenance/Utilities and Gas; Existing Campus Utility Information
Sean Rivell	B.S. Planting Science 26 years' landscape professional experience	Grounds Supervisor; Campus Recycled Water Distribution System Information
John Farmer	Training and certificates as Infrastructure Liaison Officer Active Shooter training by Homeland Security FEMA Emergency Management Response- IS200 through IS700 Incident Response to Terrorist Bombings Business Emergency Response Team Training (BERT) Employee Transportation Coordinator Light Urban Search and Rescue Training Earthquake Disaster Recovery Training P.O.S.T. Certified P.C.832.2 Peace Officer	Security Coordinator; Campus Public Safety Information

Name	Education/Experience	Responsibility
	Sheriff-Coroner Dept. Module B Level II Academy Training 34 years' law enforcement in a supervisory capacity	
Rose Anne Kings	B.Arch, Architecture MS, Architecture & Urbanism 15 years Higher Education 13 years Architectural Profession (Licensed 23 years) 7 years Historic Resources Commissioner	Professor of Architecture, Development of Alternatives

7.2 DUDEK

Name	Education/Experience	Responsibility
Rachel Struglia	AICP PhD, Environmental Analysis and Design; MS, Justice Studies; BA, Anthropology 17 years' professional experience	Project Manager, QA/QC, Traffic, Development of Alternatives
Sarah Lozano	MRP, Regional Planning; BA, Environmental Science and History 17 years' professional experience	Principal in Charge
Josh Saunders	BA, Urban Studies and Planning 7 years' professional experience	Aesthetics
Johanna Page	BS, Biology 10 years' professional experience	Biological Resources
Micah Hale	PhD, MA, BS, Anthropology 19 years' professional experience	Cultural Resources
Adam Giacinto	MA, BA, Anthropology 7 years' professional experience	Cultural Resources
Alexandra Martini	BA, Geography, Environmental Science 2 years' professional experience	Cultural Resources, Hazards and Hazardous Materials, Population and Housing
Dylan Duvergé	MS, Geosciences; BA, Environmental Studies 8 years' professional experience	Hydrology and Water Quality, Geology and Soils
Glenna McMahon	BS Civil and Environmental Engineering (Registered Professional Engineer California # 79742) 13 years' professional experience	Hazardous Materials
Khristina Leyba	BS, Environmental Engineering 4 years' professional experience	Hazardous Materials
Dave Deckman	MS, Ecology; BS, Engineering 32 years' professional experience	Air Quality and Greenhouse Gas Emissions
Mike Greene	BS, Applied Mechanics 24 years' professional experience	Noise and Vibration
Caitlin Munson	BS, Environmental Engineering 2 years' professional experience	Noise and Vibration, Public Services, Utilities and Service Systems, Air Quality, and Greenhouse Gas Emissions
Stephanie Tang	BA, Urban Studies and Planning 7 years professional experience	Noise and Vibration

Name	Education/Experience	Responsibility
Hannah Panno	BS, Anthropology and Geography, Geographic Information System (GIS) 5 years' professional experience	Graphics/GIS
Steve Taffolla	BA, English 7 years' professional experience	Technical Editing
Amy Seals	MA, BA, English 15 years' professional experience	Technical Editing
Devin Brookhart	BA, Political Science, Public Law 5 years' professional experience	Formatting
Lindsey Messner	MA, American Literature; BA, Comparative Literature 6 years' professional experience	Formatting

7.3 Subconsultants

Name	Education/Experience	Responsibility
Paul Wilkinson	Registered Professional Engineer (CA Registration TR 1118) BS, Civil Engineering 39 years' professional experience	Principal, Linscott, Law & Greenspan Engineers; Traffic Impact Analysis
Dan Kloos	BS Civil Engineering (Traffic License: TR 2200) 16 years' professional experience	Project Manager; Linscott, Law & Greenspan Engineers; Traffic Impact Analysis
Jan Ostashay	BA, Social Ecology 23 years' professional experience	Principal in Charge; Ostashay & Associates; Historic Resources
Geraldine Aron	MS, BS Geological Sciences 16 years' professional experience	Paleontological Principal Investigator; Paleo Solutions Inc.

7.4 Consultant to the District

Name	Education/Experience	Responsibility
John Lesak, AIA, LEED AP, FAPT	M.Arch, Registered Architect (CA Registration C26607) 22 years' professional experience	Principal; Page & Turnbull
Andrew Gorski, LEED AP	M.Arch, MLA, Registered Architect (AZ Registration 49061) Registered Landscape Architect (AZ Registration 51888) 15 years' professional experience	Project Manager; Architect & Landscape Architect; Page & Turnbull
Flora Chou, LEED AP	MS Historic Preservation 11 years' professional experience	Cultural Resources Planner; Page & Turnbull
Shawna Upp	MS Historic Preservation, B.Arch 15 years' professional experience	Designer; Page & Turnbull.

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