

FINAL

17861 CARTWRIGHT ROAD RESIDENTIAL PROJECT ADDENDUM

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List of Acronyms and Abbreviations

AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily trip
BMPs	Best Management Practices
C&D	Construction and Demolition
CAFE	Corporate Average Fuel Economy
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERS	California Environmental Reporting System
CFR	Code of Federal Regulations
City	City of Irvine
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CPUC	California Public Utilities Commission
CUP	Conditional Use Permit
dB	decibels
dBA	A-weighted decibels
DDT	dichlorodiphenyltrichloroethane
DIV	development intensity value
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
ECHO	Enforcement and Compliance History Information
EDR	Environmental Data Resources, Inc.
EIR	Environmental Impact Report
EMI	Emission Inventory Database
ESAs	Environmental Site Assessments
FIND	Facility Information Detail
FINDS	Facility Index System/Facility Registry System
FIRM	Flood Insurance Rate Map
GHG	Greenhouse Gas
gpm	gallon per minute
HIST UST	Historic Underground Storage Tank
hp	horsepower
HRA	health risk assessment
I	Interstate
IBC	Irvine Business Complex
ICU	intersection capacity utilization

IRWD	Irvine Ranch Water District
iShuttle	Irvine Shuttle
ITAM	Irvine Transportation Analysis Model
IUSD	Irvine Unified School District
Leq	equivalent continuous sound pressure level
LID	Low-Impact Development
LOS	level of service
LUST	Leaking Underground Storage Tank
Lv	vibration velocity levels
MERV	Minimum Efficiency Reporting Value
MM	Mitigation Measure
MWS	Modular Wetlands Systems
NOI	Notice of Intent
NonGen/NLR	Resource Recovery and Conservation Act Non-Generators
NO _x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District
OCHCA	Orange County Health Care Agency
OCTA	Orange County Transportation Authority
OEHHA	Office of Environmental Health Hazard Assessment
PCBs	polychlorinated biphenyl
PDF	Project Design Feature
PM ₁₀	particulate matter 10 microns or smaller in diameter
PM _{2.5}	particulate matter 2.5 microns or smaller in diameter
PPP	Plans, Programs, and Policies
PPV	peak particle velocity
proposed project	17861 Cartwright Road Residential Project
RCRA-SQG	Resource Conservation and Recovery Act – Small Quantity Generator
RECs	recognized environmental conditions
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
So Cal Gas	Southern California Gas Company
STC	Sound Transmission Class
TACs	toxic air contaminants
T-BACTs	Best Available Control Technologies for Toxics
TDPs	Transportation Design Procedures
TDR	transfer of development rights
USEPA	U.S. Environmental Protection Agency

USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
v/c	volume-to-capacity
VMT	vehicle miles traveled
VOC	volatile organic compound
WDS	Waste Discharge System
WQMP	Water Quality Management Plan

1.1 Purpose of Addendum

Pursuant to the California Environmental Quality Act (CEQA) Public Resources Code Section 21000 et. seq., this Addendum is prepared to address potential environmental impacts of the 17861 Cartwright Road Residential Project (proposed project) located at 17861 Cartwright Road within Planning Area 36, Irvine Business Complex (IBC), in Irvine, California. This document is an addendum to the IBC Vision Plan and Mixed Use Zoning Code Final Environmental Impact Report (EIR), which was certified by the Irvine City Council on July 13, 2010 (SCH No. 2007011024) (referred to hereafter as the IBC EIR). These documents, together with the other documents incorporated by reference herein, serve as the environmental review of the proposed project, as required pursuant to the provisions of CEQA, the State CEQA Guidelines at 14 California Code of Regulations (CCR) Section 15000 et seq., and the City of Irvine (City) procedures for CEQA implementation.

1.2 Use of an Addendum to a Previously Certified EIR

To ensure that individual projects are within the scope of the previously certified IBC EIR and that no new significant impacts would result, the City reviews each new application in accordance with Sections 15162 and 15164 of the State CEQA Guidelines. When necessary, additional environmental analysis is completed consistent with Section 15162, including EIR addendums or subsequent EIRs. In addition, this Addendum considers the special development requirements of the Irvine Zoning Ordinance specific to the IBC to ensure that all aspects of proposed projects, including land use compatibility, are analyzed.

State CEQA Guidelines Section 15164 states that: “The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR have occurred.” Pursuant to Section 15162 of the State CEQA Guidelines, no subsequent EIR may be required for a project unless the City determines, on the basis of substantial evidence, that one or more of the following conditions are met:

- (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
 - (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

1.3 Previous Environmental Documentation

The proposed project is within the IBC, or Planning Area 36, of the City of Irvine in central Orange County. The IBC consists of a range of industrial, office, commercial, and residential uses covering approximately 2,800 acres in the western portion of the City.

Because of shifts in land use, the City conducted regional efforts to update planning policies for the IBC to allow for residential uses in what were historically industrial areas. The result was the IBC EIR certified by the Irvine City Council on July 13, 2010 (SCH No. 2007011024). The document set forth a framework for new residential uses within the IBC to ensure proper integration of a mixed-use community composed of residential, office, industrial, and commercial uses. The IBC EIR reviewed and analyzed the land use policy changes and covered the cumulative impacts of the land use shift.

The IBC EIR analyzed an increase in total units in the IBC from 9,015 to 15,000 units, a difference of 5,985 units, along with a corresponding reduction of nonresidential office equivalency square footage. In addition to the 15,000 units, 2,038 density bonus units would be allowed in accordance with state law, for a potential total of 17,038 units upon buildout. The existing IBC density cap of 52 dwelling units per acre was removed from the City of Irvine General Plan (General Plan) Land Use Element, and a minimum of 30 units per acre was added as a density level. However, on November 10, 2015, the minimum density was reduced to 15 units per acre through City Council Ordinance 15-11, which took effect on December 10, 2015. As a result, future residential projects would not have a restriction on maximum density but would have to comply with a minimum density of 15 units per acre to ensure the benefit of higher-density housing necessary to establish a vibrant mixed-use community.

Most of the potentially significant environmental impacts identified in the IBC EIR were determined to be less than significant or were reduced to a level that is considered less than significant through either the adoption of mitigation measures or the incorporation of project revisions that would avoid or substantially lessen significant impacts. Impacts on air quality, noise, land use, and traffic, however, were identified as significant and unavoidable in the IBC EIR. For those impact areas, the City adopted a Statement of Overriding Considerations.

This Addendum is prepared to address potential environmental impacts of the development and operation of the proposed project for 60 affordable for-rent apartment units on a 1.62-acre site. Although the proposed project was not specifically identified in the IBC EIR as an approved or pending residential development project, it would be within the established cap of 15,000 base and 2,038 density bonus units analyzed in the IBC EIR. At the time of preparation of this Addendum, there were approximately 167 unentitled base units and 276 unentitled density bonus units still available for development, which the proposed project would reduce by 44 base units and 16 density bonus units if approved. This project would not exceed any of the development intensities evaluated in the IBC EIR.

1.4 Evaluation of Environmental Impacts

This document, prepared pursuant to CEQA, constitutes an Addendum to the IBC EIR. This document, together with the other documents incorporated by reference herein, serve as the environmental review of the proposed project, as required pursuant to the provisions of CEQA, the State CEQA Guidelines, and the City of Irvine CEQA Manual.

This Addendum relies on use of an Environmental Checklist Form, as suggested in Section 15063(d)(3) of the State CEQA Guidelines. The form includes a checklist to indicate whether the conditions set forth in Section 15162 of the State CEQA Guidelines that would require a subsequent or supplemental EIR are met, and whether there are new significant impacts resulting from the project. The Environmental Checklist Form is consistent with the resource areas evaluated in the IBC EIR and is used to review the potential environmental effects of the proposed project for each of the following areas.

- Aesthetics
- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas (GHG) Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise

- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

The Environmental Checklist Form prepared for this project is found in Appendix A of this Addendum. It contains a series of questions about the project for each of the impact categories. There are seven possible responses to each of the questions included on the Environmental Checklist Form, as follows.

1. Substantial Change in Project Requiring Major EIR Revisions
2. Substantial Change in Circumstances Requiring Major EIR Revisions
3. New Information Resulting in New Significant Impacts
4. New Information Resulting in More Severe Impacts
5. New Information Identifying New Mitigation Measures Available to Reduce Significant Impacts
6. Less Than Significant Impact
7. No Substantial Change From Previous Analysis

1.5 Summary of Findings

As described herein, there would be no new significant impacts resulting from the proposed project, nor would there be any substantial increases in the severity of any previously identified environmental impacts. The proposed project's effects were covered in the IBC EIR (July 13, 2010). All feasible mitigation measures and alternatives have been incorporated into the proposed project. None of the conditions set forth in Section 15162 of the State CEQA Guidelines that would otherwise require preparation of a subsequent EIR are met in this instance.

2.1 Project Location and Setting

The proposed project is located at 17861 Cartwright Road (Assessor's Parcel Number 435-412-39) within the IBC of the City of Irvine in central Orange County. Figure 2-1 shows the regional location of the project area. The project site consists of approximately 1.62 acres on Parcel 1 per map filed in book 130, pages 33 and 34 of parcel maps, within Planning Area 36, southwest of the intersection of Cartwright Road and Main Street. Figure 2-2 shows the local vicinity of the project site.

The project site is currently developed with a one-story rectangular-shaped building providing approximately 19,061 square feet of flexible office uses. There is also 1,953 square feet of zoning potential (unused development intensity) remaining for the project site.

Tenants on the property have included DS America Inc. (1986–1995); Litronic Inc. (circa 2002); Biz Interactive Zone Inc., Gotcha Brands Inc., Pacific Retail Concepts LLC, SSP Solutions Inc. (circa 2005); Pulsar Data Systems (circa 2010); and RDSK Inc. (2010–2014). The building has been vacant since 2014. Overgrown and unkept ornamental landscaping occurs along the site boundaries on the north, west, and southwest sides, and consists of trees and shrubs. A surface parking lot is located in the northwestern and southwestern portions of the property and is accessible from a driveway on Cartwright Road. Surface stormwater is directed toward storm drains along Cartwright Road.

Access to the project site is currently provided by two full-access driveways along Cartwright Road; one northerly shared driveway and one southerly driveway. The northerly driveway provides shared access with the 17801 Cartwright Road site (Yogurtland Franchising, Inc.).

The project site is in a primarily mixed commercial and industrial area, with some residential uses interspersed within a few blocks. Surrounding land uses include commercial office buildings to the north, a parking structure to the west, office and industrial uses to the south, and the 457-unit Metropolis Apartments to the east. Figure 2-3 shows the existing site conditions and surrounding land uses.

Other residential developments within 0.5-mile of the project site include the following:

- The under-construction 272-unit residential development located at 2525 Main Street, approximately 505 feet northeast of the project site
- The existing 481-unit Main Street Village Apartments, approximately 820 feet east of the project site
- The existing 388-unit Main & Jamboree Apartments, approximately 0.25 mile southeast of the project site
- The existing 290-unit Camden Main and Jamboree apartments, approximately 0.4 mile east of the project site
- The existing 132-unit Kelvin Court apartments, approximately 0.32 mile northeast of the project site

- The approved 178-unit 2055 Main Street Apartments, approximately 0.30 mile northwest of the project site
- The existing 39-unit 17821 Gillette condominiums, approximately 0.35 mile northwest of the project site
- The existing 403-unit Sofi Apartments, approximately 0.35 mile northeast of the project site
- The existing 1,275-unit Central Park West condominiums, approximately 0.40 mile south of the project site
- The approved 44-unit 17811 Gillette condominiums, approximately 0.40 mile northwest of the project site
- The under-construction 371-unit Pistoia Apartments, approximately 0.45 mile northeast of the project site
- The approved 137-unit 17822 Gillette townhomes, approximately 0.45 mile northwest of the project site

In addition, an application for residential development currently under review in the area includes the following:

- The 326-unit 17832 Gillette apartments, approximately 0.35 mile northwest of the project site

2.2 Project Objectives

The purpose of this project is to provide for 60 affordable apartment units. The objectives established for the proposed project are as follows:

- Provide new housing opportunities in proximity to existing major employment centers, consistent with the City's General Plan Housing Element.
- Provide residential development in an area of the IBC where supporting uses, public services, and facilities exist, consistent with the City's General Plan.
- Provide residential uses close to existing major employment centers, retail and entertainment uses, and transportation facilities, consistent with Southern California Association of Governments' Regional Comprehensive Plan and Guide.
- Contribute to the development of a mixed-use neighborhood by incorporating residential uses into an existing core of nearby employment centers, community facilities, retail goods and services, and restaurants to enhance the area's overall urban character pursuant to the goals of the City's IBC Vision Plan.
- Minimize the impact on the environment by promoting a sustainable infill development that would reduce GHG emissions by developing more multi-family housing where jobs and housing are closer to transit and existing commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development, consistent with the objectives of Senate Bill 375.

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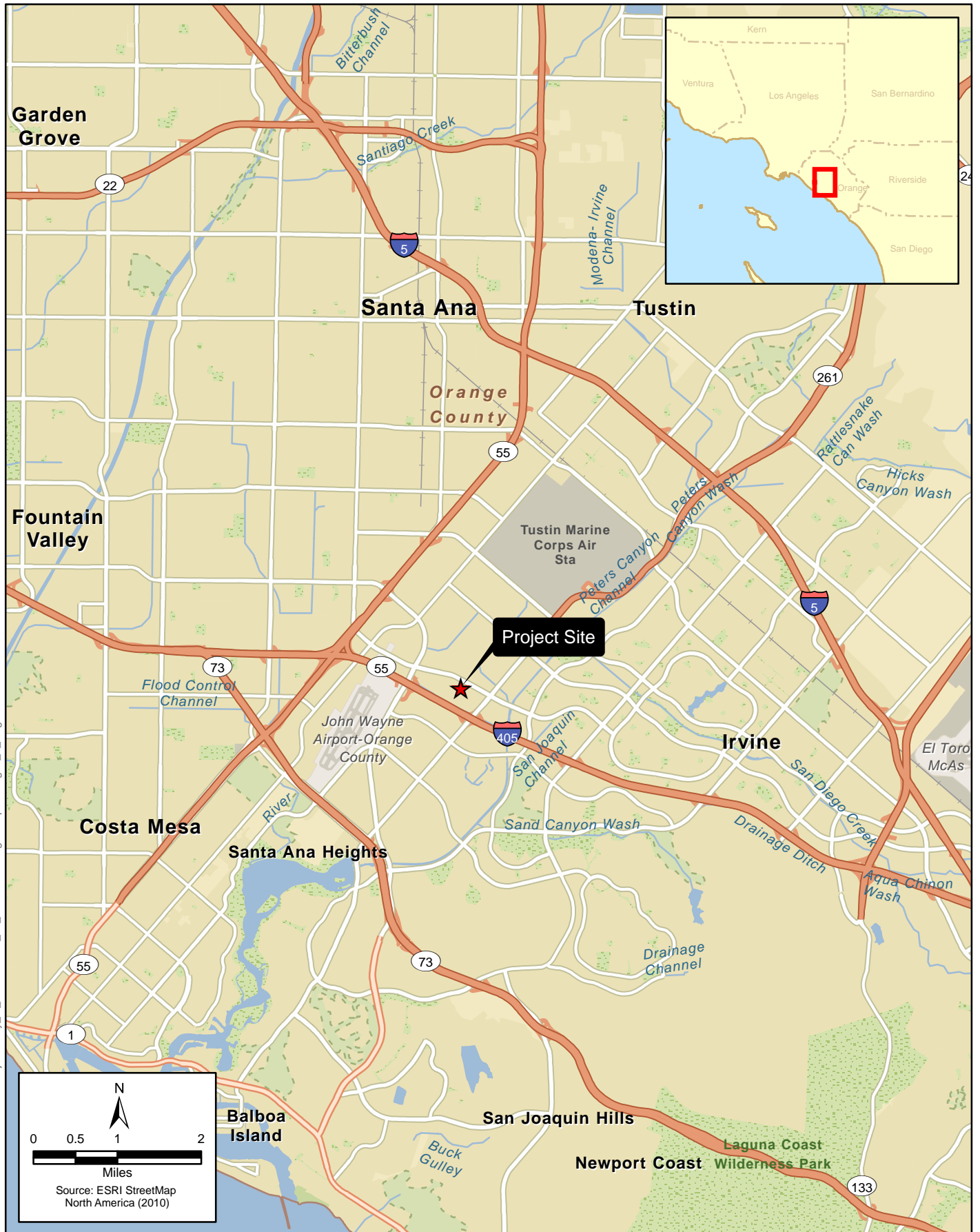


Figure 2-1
Regional Location
17861 Cartwright Road Residential Project

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Figure 2-2
Local Vicinity
17861 Cartwright Road Residential Project

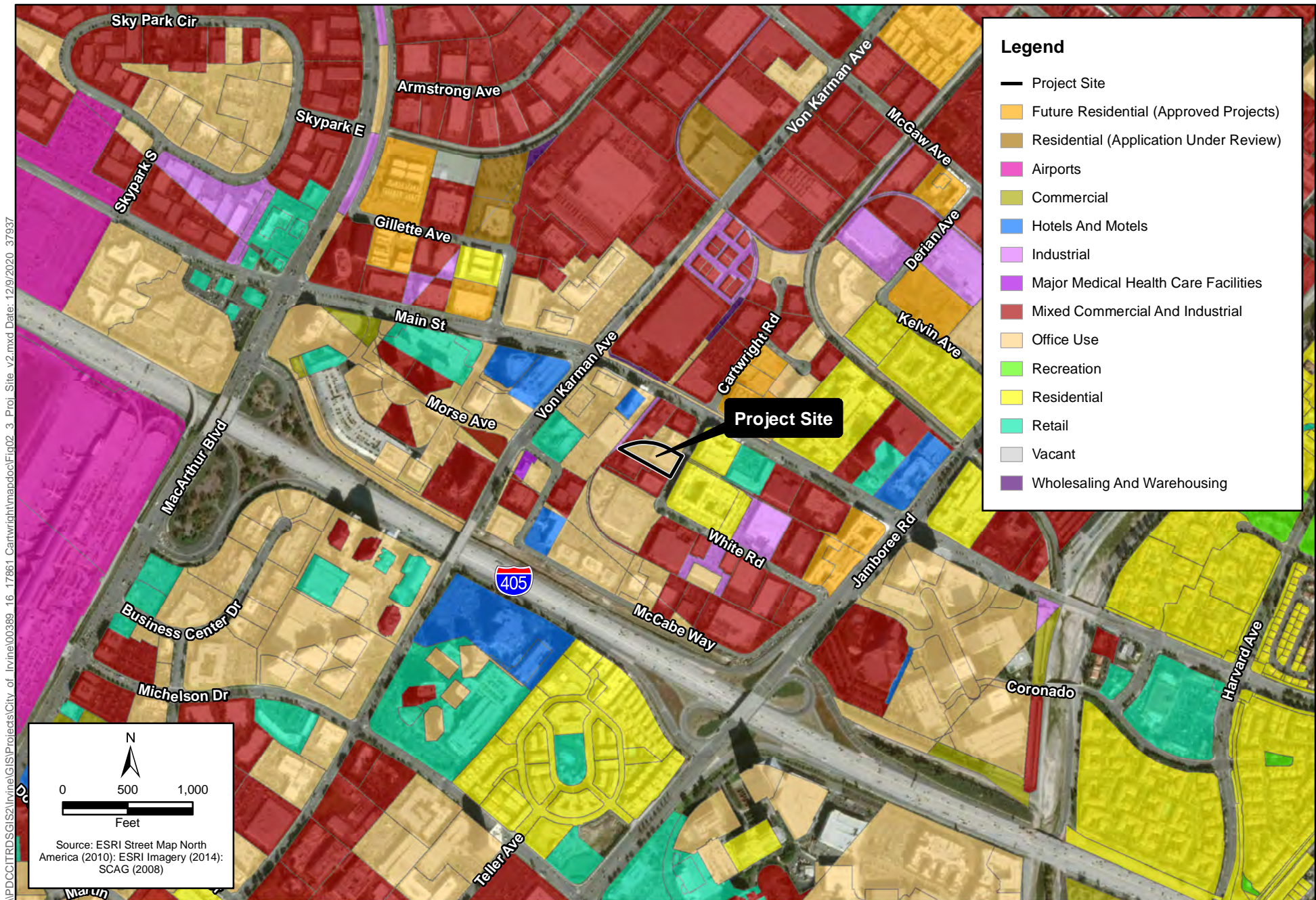


Figure 2-3
Project Site and Surrounding Uses
17861 Cartwright Road Residential Project

2.3 Project Description

The proposed project involves demolition of the existing one-story office/warehouse building and parking lot, and redevelopment of the site with one four-story building accommodating 60 apartment units and 107 surface parking spaces. Twenty one of the parking spaces would be covered and 86 spaces would be uncovered. Amenities would include an approximately 0.18-acre recreation courtyard with a pool and tot lot. According to the Park Plan (see Appendix B) prepared for the proposed project, the project would house approximately 88 residents. The proposed project would remove the southern driveway and use the northern driveway (shared with Yogurtland Franchising, Inc. at 17801 Cartwright Road) as the sole access point. The project would provide 13 new perpendicular parking spaces along the access driveway to be used exclusively by the adjacent tenant.

In support of the proposed project, the applicant has filed applications with the City of Irvine requesting the approvals discussed below:

- Conditional Use Permit (Case No. 00820914-PCPU) to specify site planning and architectural details for the proposed building
- Park Plan (Case No. 00820952-PPP) to establish the community and neighborhood park requirements and manner of compliance for the project

2.3.1 Conditional Use Permit 00820914-PCPU

A Conditional Use Permit (CUP) is intended to evaluate the appropriateness of proposed uses for project sites and to ensure proper implementation of the City's development standards, including zoning standards and IBC Design Guidelines, among others. The CUP, once approved by the City, would provide the approval against which all future ministerial applications are reviewed.

The CUP for the proposed project would allow for the development of one four-story building to accommodate 60 apartment units. The building would be four levels and approximately 60 feet tall with single and tandem parking spaces. Consistent with the State of California Density Bonus Law, the proposed project would provide 1.0 parking space for each one bedroom unit and 2.0 parking spaces for each two or three bedroom unit for residents. The proposed project would provide 52 single and 55 tandem parking spaces for a total of 107 parking spaces. Per State Density Bonus Law, no visitor parking spaces are required. Ten percent of the parking spaces would be capable of supporting future electric vehicles per California Green Building Standards Code Section 4.106.4.1.1.

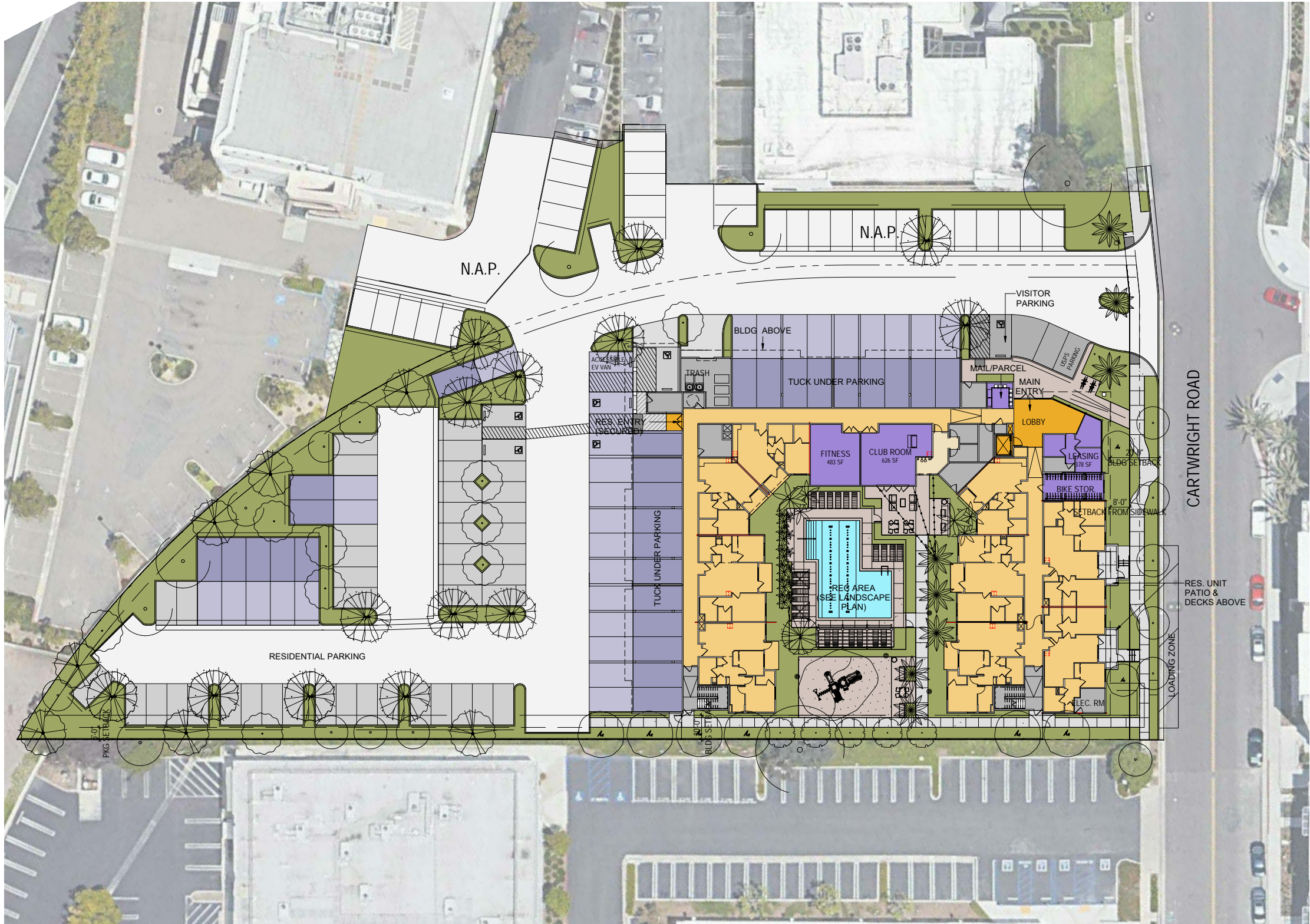
The apartment complex would include 15 one-bedroom units, 17 two-bedroom units, and 28 three-bedroom units. The proposed project would also include one elevator and two staircases, and access to the building would be provided through a ground-floor lobby. Common trash rooms would also be located on each floor. Figure 2-4 shows the site plan for the proposed project. Figures 2-5a, 2-5b, and 2-5c show the elevations for the building, and Figures 2-6a, 2-6b, and 2-6c show perspectives for the building. Figure 2-7 shows the proposed landscape plan and Figure 2-8 shows the pedestrian circulation plan.

2.3.2 Park Plan 00820952-PPP

A Park Plan application is being requested to establish the park dedication requirements for the proposed project. According to the City and the IBC Vision Plan, neighborhood and community park dedication requirements, a total of 0.176 acre of neighborhood park land and 0.132 acre of community park land is required for the proposed project.

Community and neighborhood park land requirements for the proposed 60 dwelling units are based on the Park Dedication Requirements for Affordable Rate Residences of 2 acres of neighborhood park and 1.5 acres of community park per 1,000 residents (Irvine Municipal Code Section 5-5-1004, *Park Dedication*). The neighborhood park credit requirement would be met by providing 0.18-acre of neighborhood parkland onsite. The community park credit requirement would be met by payment of an in-lieu fee, totaling \$528,000, to the City. This amount equals 0.132 acre based on the fair market land value of \$4,000,000 per acre established in the most recent IBC parkland appraisal (Gary Vogt and Associates 2019) approved by the Irvine Planning Commission in May 2020. The draft Park Plan is included in Appendix B.

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PARKING PROVIDED	
LONG TERM (8.5' x 18')	42
LONG TERM @ TANDEM (10' x 18')	27
TANDEM (10' x 20')	28
USPS STANDARD (9' x 19')	1
VISITOR STANDARD (9' x 19')	2
NON-ACCESSIBLE TOTAL	100
ACCESSIBLE (18'-0" x 9'-0")	3
ACCESSIBLE VAN (18'-0" x 9'-0")	2
ACCESSIBLE VAN EV (18'-0" x 9'-0")	1
VISITOR ACCESSIBLE VAN (19'-0" x 9'-0")	1
ACCESSIBLE TOTAL	7
SITE TOTAL	107

Source: KTGy 2020



Figure 2-4
Project Site Plan
17861 Cartwright Road Residential Project

MATERIAL LEGEND

1. STUCCO
2. VINYL WINDOWS
3. METAL STOREFRONT
4. METAL PANEL RAILING
5. WOOD-LIKE HORIZONTAL RAILING
6. WOOD-LIKE SIDING
7. ARCHITECTURAL ACCENT CANOPY
8. ARCHITECTURAL ACCENT @ EAVE
9. COLUMN
10. LOW WALL @ STOOPS (CMU)
11. ACCENT PANEL (STUCCO FINISH)
12. CORNICE TRIM #1 (STUCCO FINISH)
13. CORNICE TRIM #2 (STUCCO FINISH)
14. TRIM TO GROUP MIDDLE WINDOWS (STUCCO FINISH)

IBC RESIDENTIAL DESIGN GUIDELINES

PRIMARY DESIGN CRITERIA:

1. **Maximum length of building frontage:** Less than 220' (approx. 200' on longest edge).
2. **Active ground floor:** Dwelling units on street edge provided with individual porches with access to the public ROW.
3. **Building base, middle, and cap:** Building base articulated by individual porches/stoops. Active ground floor use defined at the base by storefront glazing. Tuck under parking defines building base at North and west elevations. Windows at the 2nd and 3rd level are grouped with gray trim and a gray panel to define the building middle. Top of the building defined through the use of upper level canopies at decks, dark protruding cornice, and upper windows visually separated from the middle grouping.
4. **Corner articulation:** The entry corner along Cartwright Road is set apart through the use of color, grouped balconies with accent railing, enhanced cornice feature, additional height, and storefront glazing at the base.

SECONDARY DESIGN CRITERIA:

1. **Building tops:** Tops of the façade visually terminate at protruding, dark color cornices. Trim and height variation are used to create hierarchy along the roofline with the corner articulation the most prominent.
2. **Architectural window articulation:** Window rhythm creates a residential scale while a 2" recessed window detail provides additional surround and shadow line to the façade.
3. **Varied building heights:** Building height varies between the corner articulation (tallest), the prominent white masses (secondary height), and the light grey recessed façade (lowest height). A three story mass is also incorporated at the building entry and accentuated with horizontal siding to further distinguish the entry corner from the rest of the project.
4. **Building color:** Predominate building colors are light earth tones (off-white masses on light, warm gray). Contrasting color (blue) is used at the corner to create interest and highlight the project entry. Wood tones are used on the balcony railings and 3 story entry massing to emphasize the natural, warm aesthetic.



EAST ELEVATION | 1/8" = 1'-0" | 2



NORTH ELEVATION | 1/8" = 1'-0" | 1

Source: KTG 2020



Figure 2-5a
Elevations
17861 Cartwright Road Residential Project

MATERIAL LEGEND

- 1. STUCCO
- 2. VINYL WINDOWS
- 3. METAL STOREFRONT
- 4. METAL PANEL RAILING
- 5. WOOD-LIKE HORIZONTAL RAILING
- 6. WOOD-LIKE SIDING
- 7. ARCHITECTURAL ACCENT CANOPY
- 8. ARCHITECTURAL ACCENT @ EAVE
- 9. COLUMN
- 10. LOW WALL @ STOOPS (CMU)
- 11. ACCENT PANEL (STUCCO FINISH)
- 12. CORNICE TRIM #1 (STUCCO FINISH)
- 13. CORNICE TRIM #2 (STUCCO FINISH)
- 14. TRIM TO GROUP MIDDLE WINDOWS (STUCCO FINISH)



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Source: KTG 2020



Figure 2-5b
Elevations
17861 Cartwright Road Residential Project

MATERIAL LEGEND

- 1. STUCCO
- 2. VINYL WINDOWS
- 3. METAL STOREFRONT
- 4. METAL PANEL RAILING
- 5. WOOD-LIKE HORIZONTAL RAILING
- 6. WOOD-LIKE SIDING
- 7. ARCHITECTURAL ACCENT CANOPY
- 8. ARCHITECTURAL ACCENT @ EAVE
- 9. COLUMN
- 10. LOW WALL @ STOOPS (CMU)
- 11. ACCENT PANEL (STUCCO FINISH)
- 12. CORNICE TRIM #1 (STUCCO FINISH)
- 13. CORNICE TRIM #2 (STUCCO FINISH)
- 14. TRIM TO GROUP MIDDLE WINDOWS (STUCCO FINISH)



COURTYARD WEST | 1/8" = 1'-0" | 3



COURTYARD NORTH | 1/8" = 1'-0" | 2



COURTYARD EAST | 1/8" = 1'-0" | 1

Source: KTG 2020



Figure 2-5c
Elevations
17861 Cartwright Road Residential Project

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Source: KTG 2020



Figure 2-6a
Perspectives
17861 Cartwright Road Residential Project

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Source: KTG 2020



Figure 2-6b
Perspectives
17861 Cartwright Road Residential Project

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Source: KTG 2020



Figure 2-6c
Perspectives
17861 Cartwright Road Residential Project

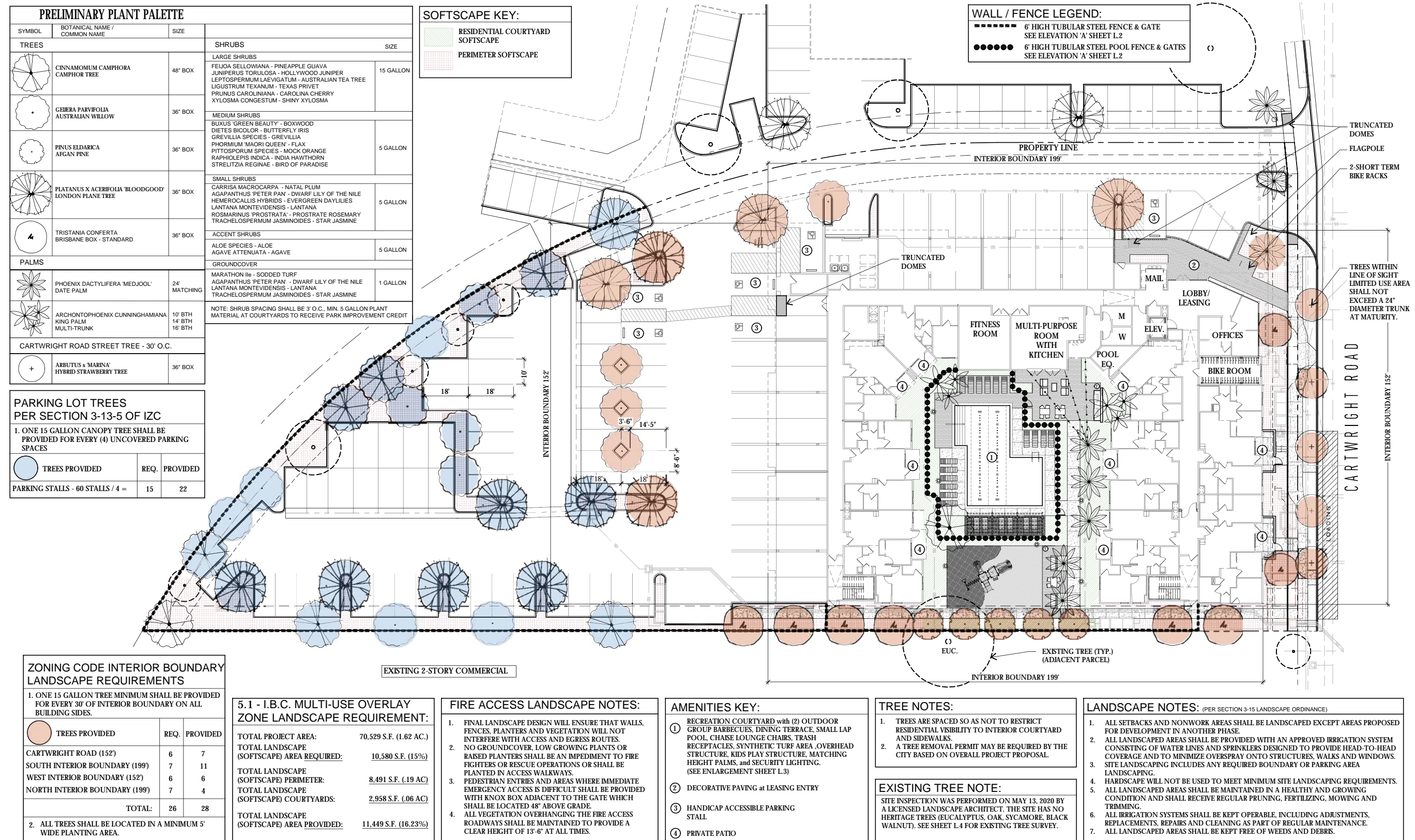


Figure 2-7
Landscape Plan
17861 Cartwright Road Residential Project

Chapter 3

Environmental Setting

This chapter presents the environmental setting for the proposed project site and surrounding areas. The setting is described as it relates to potential environmental effects associated with the proposed project. Changes to the environmental setting subsequent to the certification of the IBC EIR are noted in this chapter. The existing site conditions and surrounding land uses is shown in Figure 2-3. A discussion of the potential environmental impacts is provided in Chapter 4, *Environmental Impact Analysis*.

3.1 Aesthetics

The 1.62-acre site is developed with a one-story rectangular-shaped building with approximately 19,061 square feet of flexible office uses. Moderate ornamental landscaping occurs along the site boundaries in all directions and consists of overgrown and unkempt trees, shrubs, and grass. A surface parking lot surrounding the building to the west and south is accessible by a driveway off Cartwright Road, south of the building. The property is bordered to the north by a joint-use driveway.

The project site is in a primarily mixed commercial and industrial area, with some existing and planned residential uses interspersed within a few blocks. Surrounding land uses include commercial office buildings north and south of the project site, a parking structure to the west, and the existing 457-unit Metropolis Apartments to the east of the project site across Cartwright Road. Figure 2-3 shows the existing site conditions and surrounding land uses.

The area surrounding the project site has historically consisted of mid-rise office and industrial land uses. However, over the past 10 years, the IBC has been transitioning to include a variety of high-density residential land uses. As discussed in Section 2.1, *Project Location and Setting*, several other multi-story, multifamily residential uses are located in the project vicinity.

3.1.1 Landforms, Scenic Vistas, and Scenic Resources

According to the IBC EIR, there are no significant visual landforms in the IBC or its vicinity. Additionally, the General Plan does not identify any significant visual resources, preservation areas, or major views in the IBC (City of Irvine 2012a). Furthermore, according to the California Scenic Highway Mapping System, the project site is not on or near a major state-designated scenic highway (Caltrans 2019).

The IBC EIR identifies the San Joaquin Freshwater Marsh as a significant visual resource. This marsh is located outside the IBC's southeastern boundary, approximately 0.78 mile south of the project site. There is intervening development that obstructs any views of the marsh from the project site, and vice versa.

3.1.2 Light and Glare

The IBC EIR states that night lighting comes from various sources, such as street lights, security lighting (in parking lots and along walkways), sign and building illumination, vehicle headlights, and light emitted from the exteriors and interiors of buildings. Light sources surrounding the project area include general nighttime outdoor lights from the existing residential, office, industrial, and commercial uses, and vehicle lights from adjacent roads. Nighttime glare is generally limited to headlights reflecting off glass surfaces. During the day, sunlight reflects off glass surfaces, creating glare (City of Irvine 2009).

3.2 Agricultural and Forestry Resources

The IBC does not contain any land zoned for agriculture or forestry use. The project site is currently developed and no agricultural or forestry resources exist on the project site or in the vicinity.

3.3 Air Quality

The project site generally shares the same air quality characteristics as the IBC and the City, as a whole, within the South Coast Air Basin (SCAB). The SCAB falls within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and is subject to the rules and regulations of SCAQMD. The project site is developed with a vacant 19,061-square-foot office building and does not generate criteria pollutant emissions.

The surrounding project area includes residential, commercial, and industrial uses. As discussed in the health risk assessment (HRA) for the proposed project (Appendix C), the project site is within 0.25 mile of existing industrial sources that have the potential to generate toxic air contaminant (TAC) emissions that could affect future residents. Note that the requirement for evaluating the effect that nearby TAC emissions sources may have on future residents is not a CEQA requirement, but a requirement of the Irvine Zoning Ordinance (Section Sec. 5-8-4(f), *Special development requirements*). A survey of the SCAQMD Facility Information Detail (FIND) database shows that there are 28 permitted facilities within 0.25-mile of the site. In addition, four facilities within the 0.25-mile radius have loading docks, which would be a source of TAC emissions from diesel powered trucks idling during loading and unloading goods and materials. Lastly, the project site would be located less than 0.25 mile from Interstate (I) 405, which is a source of TAC emissions from passenger vehicles and diesel trucks.

3.4 Biological Resources

The project site is fully developed and paved and does not support native vegetation. There are no native, sensitive, or important biological resources on or adjacent to the site. The project site contains ornamental landscaping, including trees, shrubs, and grass.

3.5 Cultural Resources

There are no significant historical resources present in the IBC. Three archaeological resource sites are documented within the IBC and described in the IBC EIR (City of Irvine 2010). The three archaeological sites are located in the southern portion of the IBC and are not near the proposed project site (City of Irvine 2012b).

3.6 Geology and Soils

Site-specific geologic hazard and soils information in this section is based on the *Geotechnical Desktop Due-Diligence Report, Proposed Residential Development, 17861 Cartwright Road, Irvine, California* prepared by Albus-Keefe & Associates on November 18, 2019 (Appendix D).

The project site is within the southernmost extension of the Coastal Plain of Los Angeles County and Orange County. It is located on the Tustin Plain, which is bounded on the north by the Santa Ana Mountains and to the south by the San Joaquin Hills. The Irvine area is generally bounded on the northwest by the Newport Freeway and Newport Avenue, on the northeast by the Santa Ana Mountains, on the southeast by the low drainage divide near Laguna Hills and on the south San Joaquin Hills.

The project site is expected to be underlain by a mantle of fill (associated with the existing and earlier development in this area). The fill is anticipated to be about 4 to 6-feet thick and is expected to be composed mostly of silty clay. The fill is expected to be underlain by natural alluvial soils. Generally, the alluvium is anticipated to consist of soft to medium stiff silty clay and sandy clay, with interlayers of loose to medium dense sand with various silt and clay content to a depth of at least 25 feet. Historical high groundwater level for the general site area is as shallow as 10 feet below the existing ground surface.

The project site is not within an Alquist-Priolo earthquake fault zone, and there are no known active faults crossing the project. The closest Alquist-Priolo earthquake fault zone is the Newport-Inglewood fault zone, located approximately 8 miles to the west-southwest of the site.

As with all of Orange County, the IBC area is in Uniform Building Code Seismic Zone 4, which is the highest classification of the four zones in the United States, with the most stringent requirements for building design due to the potential for seismic shaking and strong ground motion resulting from seismic activity. Thus, the project area could experience moderate to occasionally high ground-shaking from activity emanating from nearby fault zones, as well as some background shaking from other seismically active areas of the southern California region.

Liquefaction occurs when saturated, low-density loose materials (e.g., sand or silty sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. Liquefaction more often occurs in areas underlain by silts and fine sands and where shallow groundwater exists. Adverse impacts associated with liquefaction can include ground rupture, lateral spreading, and settlement of the liquefiable layers. As the site is expected to be underlain by some layers of loose granular soils that are below groundwater, and the site is anticipated to be subjected to strong ground shaking, liquefaction could occur during the design life of the project. Because site soils are anticipated to be fine-grained, the anticipated magnitude of seismic settlement

associated with liquefaction is estimated to be on the order of 1 to 3 inches. However, according to the *Geotechnical Desktop Due-Diligence Report*, the potential for lateral spreading due to liquefaction is low.

Landslides are not mapped at the project site or its immediate vicinity. The project site is generally flat, thus creating site topography with a minimal relief. Due to the gently sloping topography of the project site, the potential for landslides is low.

Subsidence, the phenomenon of widespread land sinking, is generally related to substantial overdraft of groundwater or petroleum reserves from underground reservoirs. The project site is not within an oil field, nor are drinking water production wells located onsite; therefore, subsidence is not considered a potential hazard on the project site (California Department of Conservation 2020; Orange County Water District 2018).

Expansive soils are fine-grained soils (generally high-plasticity clays) that can undergo a significant increase in volume with an increase in water content and a significant decrease in volume with a decrease in water content. Changes in the water content of highly expansive soils can result in severe distress for structures constructed on or against the soils. According to the *Geotechnical Desktop Due-Diligence Report*, near-surface soils may contain varying expansion properties; the report characterized the onsite expansion potential as medium.

3.7 Greenhouse Gas Emissions

The project site includes a vacant 19,061-square-foot office building and does not generate GHG emissions.

3.8 Hazards and Hazardous Materials

A *Phase I Environmental Site Assessment* (ESA) was performed for the project site by Partner Engineering and Science, Inc. on October 10, 2019 (Appendix E). The objectives of the ESA were to identify existing or potential recognized environmental conditions¹ (RECs) affecting the property. The ESA was prepared in accordance with the American Society of Testing and Material (ASTM)'s Standard E1527-13 and, as such, included an environmental database search conducted by Environmental Data Resources, Inc. (EDR) to obtain information pertaining to the proposed project and the proposed project's immediate surroundings.

The proposed project site is developed with a vacant, one-story commercial office building providing approximately 19,061 square feet of flexible office uses. At the time of the ESA's completion, all interior finishes and construction materials had been gutted and removed, leaving only a bare concrete floor slab and building frame. No operations were being conducted at the time.

¹ Per ASTM International: the term *recognized environmental conditions* means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

The ESA did not identify any evidence of RECs associated with the site. However, an *environmental issue*² was identified associated with the site. Due to the age of the onsite building, there is potential for asbestos-containing materials (ACM) to be present. As the onsite building's construction materials had been gutted and removed, the remaining suspected ACM include window caulking and roofing materials.

3.8.1 Database Search

Project Site

The project site was identified in the HAZNET-Facility and Manifest Data listing from 1993 to 1995. The onsite tenant during this time, D S America West, Inc., disposed of hazardous waste identified as photochemicals/processing waste. There were no violations associated with the HAZNET listing, and thus it was not considered a REC for the project site nor expected to represent a significant environmental concern. A supplemental database search conducted via State Water Resources Control Board's Geotracker and Department of Toxic Substances Control (DTSC)'s Envirostor websites in November of 2020 and did not identify any other listing associated with the project site.

Surrounding Sites

Multiple sites were identified in the EDR report as being within the 1-mile standard ASTM search radius of the project site. EDR uses proprietary techniques to search federal, state, local, and other appropriate databases to obtain information on facilities that use, store, transport, or generate regulated and potentially hazardous substances. Out of the surrounding sites reviewed, two sites were evaluated further in the ESA due to their proximity, their environmental history, and their potential to have a deleterious effect on the proposed project. These two sites, including Kyowa American Corp. and Proficient Food Corp., are described in more detail below. Based on regulatory status, relative location to the proposed project, and other factors, none of the other sites identified in the ESA were considered to be a potential impact on the proposed project.

Kyowa American Corp.

Kyowa American Corp. at 2500 Main Street is northeast and adjacent to the project site, across Cartwright Road. This site was listed on the Resource Conservation and Recovery Act – Small Quantity Generator (RCRA-SQG), Facility Index System/Facility Registry System (FINDS), Enforcement and Compliance History Information (ECHO), Waste Discharge System (WDS), California Environmental Reporting System (CERS) and the Emission Inventory Database (EMI). The site was listed as registered with SCAQMD from 1990 until 2001 for permitted emissions (under the EMI database). No violations or releases were associated with the site, and it was deemed as unlikely represent a significant environmental concern in the ESA.

Proficient Food Corp.

Proficient Food Corp. at 17872 Cartwright Road is southeast of and adjacent to the project site. This site was identified on the Underground Storage Tank (UST), Resource Recovery and Conservation Act Non-Generators (NonGen/NLR), FINDS, Historic Underground Storage Tank (HIST UST), and

² An *environmental issue* refers to environmental concerns that do not qualify as RECs, but, however, warrant further discussion.

Leaking Underground Storage Tank (LUST) databases. Two separate releases were reported in the LUST database. A diesel fuel release to soil occurred in 1985. Remediation activities were conducted and the site was granted closure by the Orange County Health Care Agency (OCHCA) in March of the same year. The second release (January 1991) also involved diesel-impacted soil and groundwater. Remediation activities were conducted, and the site was subsequently granted closure by the OCHCA in May of 1993. No other violations were identified. Furthermore, the Metropolis apartment buildings have been built on this site. Therefore, the site was not considered a REC of the project site.

3.9 Hydrology and Water Quality

The IBC, including the project site, is within the western portion of the San Diego Creek watershed, which is part of the larger Santa Ana River basin. The San Diego Creek Watershed covers 112.2 square miles in central Orange County, of which the IBC comprises 3.9 percent of the total watershed area. Its main tributary, San Diego Creek, drains from the Santiago Hills and outlets into the Upper Newport Bay. Watershed uses generally consist of agricultural, vacant, developed, and recreational land uses. The entire western portion of the watershed is developed, with development spreading to the east and south (City of Irvine 2010).

The project site is relatively flat and is estimated to be underlain by a layer of man-made fill associated with construction of the existing improvements at the site and alluvial soils. The fill is anticipated to be up to 4 to 6 feet thick and consist mainly of silty clay. Below the fill, the alluvium is estimated to generally consist of medium dense to dense sand interlayered with medium stiff silty clay to sandy clay. Due to this soil type, historical shallow groundwater, and the location of the project in the Selenium Contamination Area, infiltration is considered infeasible for the project site (Appendix F, Water Quality Management Plan).

There are no streams or flood control channels on the project site, and the majority of the site is covered with impermeable surfaces. The project site is in a developed area, where all drainage infrastructure is already in place. Storm drainage surface flows southeasterly from the northwestern portion of the site toward the southwestern corner of the site. The onsite runoff joins Cartwright Road's runoff and is conveyed southerly via traditional curb and gutters. These runoffs are captured by a catch basin to the south at White Road. From there, flows travel southwest, and then continue into the Orange County Flood Control District's (OCFCD) Channel F08, which then becomes San Diego Creek Reach 1 and ultimately drains to Newport Bay and the Pacific Ocean (Appendix G, Preliminary Hydrology Analysis).

Impaired receiving waters in the project area include OCFCD Channel F08, San Diego Creek Reach 1, the Pacific Ocean, and the Upper and Lower Newport Bay. Clean Water Act Section 303(d) impairments for these receiving waters include benthic communities effects, chlordane, chlorpyrifos, copper, diazinon, dichlorodiphenyltrichloroethane (DDT), indicator bacteria, malathion, nutrients, polychlorinated biphenyl (PCBs), sedimentation/siltation, selenium, and toxaphene, and toxicity. Applicable Total Maximum Daily Loads include nutrients, toxics, sediment, and fecal coliform (Appendix F). Pollutants of concern for the proposed project include suspended solid/sediment, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil/grease, toxic organic compounds, and trash/debris (Appendix F, Water Quality Management Plan).

The project site is located within FEMA Flood Zone X per FEMA Flood Insurance Rate Map (FIRM) No. 06059C0286J, revised December 3, 2009. Flood Zone X represents areas of minimum flood hazard; Flood Zone X is located outside of the 100-year flood zone. (Appendix G). The project site is outside of flood hazard areas identified in the General Plan Safety Element (City of Irvine 2012c). The IBC is not subject to inundation from seiches and tsunamis; nor is it located on or nearby the Pacific Ocean or any large inland bodies of water, where seiche wave action or tsunamis would affect the project site. In addition, there are no major dams within the project vicinity or within the San Diego Creek Watershed, and inundation by seiche or mudflow is not anticipated for the project site. The surrounding areas are mostly flat and built-out. For this reason, the IBC is not immediately downstream of an area subject to landslides and seasonal mudflows. Furthermore, debris basins and flood control structures exist throughout the area and maintained by the local agencies (i.e., City of Irvine, OCFCD) (City of Irvine 2010).

Geographically, the IBC is located within the Irvine Groundwater Management Zone of the lower Santa Ana River basin. As defined in the basin plan, the Irvine Groundwater Management Zone is generally bounded by Newport Bay and the San Joaquin Hills to the south/southwest, the Santa Ana Mountains to the east, and the Orange County Groundwater Management Zone to the north. The project site is situated over the Irvine Subbasin of the Orange County Main Groundwater Basin. The Orange County Water District manages the level of water in the basin, including the Irvine Subbasin, by regulating the amount of water pumped out and by recharging water into the basin. The groundwater basin provides more than half of the water used within the Orange County Water District (City of Irvine 2010). Water in the Orange County Main Groundwater Basin is of sufficient quality that it is potable when it is pumped out of the ground (City of Irvine 2010).

The project site is not in a groundwater recharge area. The site would not use groundwater for operation; water would be supplied by the local municipal water service. Because of agricultural activities and the increasing urbanization in the watershed over the past 100 years, shallow groundwater within portions of the watershed contains high levels of nutrients and selenium. Groundwater levels in portions of the watershed are shallow and relatively close to the ground surface. According to the *Geotechnical Desktop Due-Diligence Report* (Appendix D), groundwater is anticipated to occur 15 feet below the existing ground surface.

The Santa Ana Regional Water Quality Control Board (RWQCB) recognized the potential threat groundwater discharges may present to surface water quality and began regulating discharges of groundwater into surface waters through National Pollutant Discharge Elimination System (NPDES) permits. Because of concerns from short-term discharges of nitrogen and selenium into surface waters, the RWQCB issued a separate permit specific to the San Diego Creek and Newport Bay watersheds. Order No. 2004-0021 (superseded by Order No. R8-2007-0041 in 2007 and amended by Order No. R8-2009-0045 in 2009) recognized that although groundwater contained high levels of selenium, there were no feasible treatment technologies for reducing selenium concentrations in discharges. The Orange County Nitrogen Selenium Management Program was developed to investigate alternative compliance approaches and develop an overall understanding and management plan for selenium and nitrogen as a result of groundwater discharges in the watershed (City of Irvine 2010).

3.10 Land Use and Planning

The project site is within Planning Area 36, which includes a mix of office, light industrial, commercial, and high-density multifamily residential uses. The project site is designated as Urban and Industrial by the General Plan (City of Irvine 2015b) and is within the Urban Neighborhood Overlay District of the 5.1 IBC Multi-Use zoning district, per the Irvine Zoning Ordinance (City of Irvine 2014).

The IBC Element of the General Plan outlines the framework for future development of the IBC as a mixed-use community. The General Plan Urban and Industrial land use category provides for offices, industrial, and support commercial uses, mixed with medium- and high-density housing, as well as a variety of activities. Typical uses allowed include professional/medical offices, industrial manufacturing, research and development, support service retail, restaurants, multifamily housing, and hotel/motels.

Section 3-37-29 of the Irvine Zoning Ordinance provides the intent, permitted uses, and development standards for the 5.1 IBC Multi-Use zoning district, which is intended as an area in which a wide variety of uses are allowed. Specific institutional uses—particularly those proposed to serve the needs of the residential and employee populations of this district, such as schools, parks, and libraries—are especially encouraged in this area.

The proposed project is in the Urban Neighborhood Overlay District, as detailed in the IBC Residential/Mixed-Use Vision Plan document (City of Irvine 2009). The Urban Neighborhood Overlay includes a mixed-use core (generally between Jamboree Road and Von Karman Avenue) and allows a range of land uses and buildings at varying heights. Generally, the areas within the Overlay are envisioned to include residential with retail, offices, and restaurants allowed on the first floor.

Surrounding land uses include office buildings, a parking structure, industrial buildings, residential developments, commercial buildings, and retail. Adjacent to the project site are commercial office buildings to the north, a parking structure to the west, office and industrial uses to the south, and the 457-unit Metropolis Apartments project to the east, across Cartwright Road.

3.11 Mineral Resources

The project site is developed with office and light industrial uses and lacks valuable or important mineral resources or mining operations. In accordance with the California Surface and Mining Reclamation Act of 1975, the California Department of Conservation, State Mining and Geology Board, the site is identified as being located in Zone MRZ-1, indicating that no significant mineral deposits are present onsite (California Department of Conservation 2015).

3.12 Noise

According to the IBC EIR, noise levels in the project area are primarily influenced by mobile noise sources, such as motor vehicle and air traffic, with secondary noise coming from stationary-sources associated with land uses in the city. The IBC EIR generally characterizes existing noise levels within the IBC as between 60 to 70 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL) along the arterial roadway network. Based on the 2020 Traffic Study, average daily trip (ADT)

volumes along the closest arterial roadway segments (Main Street from MacArthur through Jamboree) range from 22,300 to 33,800 ADT. Existing traffic noise levels along these segments were from 69.9 and 71.1 dBA CNEL, respectively, at a distance of 50 feet from the centerline, based on the traffic noise modeling included in the noise technical report (Appendix H). However, the project site is separated from these roadways by distances of approximately 400 feet, which would result in an approximately 18 dB reduction in noise (based on a 6 dB reduction per doubling of distance). This would result in the project site being located outside the 60 dB CNEL contour. Additional mobile noise sources include aircraft traffic on approach and departure from John Wayne Airport (located approximately 0.75 mile west of the project site).

The *Noise and Vibration Impact Analysis* (included as Appendix H) prepared for the proposed project found that the existing traffic noise levels at the project site are similar to levels identified in the IBC EIR. The *Noise and Vibration Impact Analysis* indicates that the project site falls outside the existing 60 dB CNEL contour of the nearby major arterials and that traffic noise at the project site from Cartwright Road is be approximately 61.1 dB CNEL at a distance of 50 feet from the centerline of the outermost lane.

The other mobile noise source in the project area identified by the *Noise and Vibration Impact Analysis* is aircraft noise. The project site is located outside the 60 dBA CNEL noise contour for John Wayne airport, as shown on the 2013 Airport Contour Map (Mestre Greve Associates 2013).

Stationary noise sources in the project vicinity include operations at the surrounding industrial and office uses, such as parking lot activities, delivery trucks, and loading/unloading activities.

Short-term noise measurements included in the *Noise and Vibration Impact Analysis* indicate average noise levels of 60 to 64 dBA equivalent continuous sound pressure level (L_{eq}) at the project site. Examples of short-term noise sources include mechanical equipment that cycles on and off or construction work, which can vary sporadically. Short-term noise generated during onsite project construction could result from demolition, grading, utilities, construction, or street paving activities. Construction vehicles traveling to and from the project site could also be a source of increased short-term noise levels.

3.13 Population and Housing

The project site supports non-residential commercial and light industrial uses.

3.14 Public Services

All public services are available on the project site. The project site is served by the Orange County Fire Authority (OCFA) for fire protection services, the Irvine Police Department for police protection services, and the Irvine Unified School District (IUSD) for school services. The closest school campuses to the project site include Culverdale and Westpark Elementary Schools, South Lake Middle School, University High School, and Irvine Adult School. Enrollment data for the 2019–2020 school year suggest that all nearby schools are under capacity and have available seats for additional students (Barron pers. Comm, California Department of Education). Table 3.14-1 shows the current capacity, enrollment, and available seats for each of the schools.

Table 3.14-1. IUSD School Capacity and Enrollment for 2019–2020

School (grade levels)	Capacity	Enrollment	Available Seats
Culverdale Elementary (K–6)	814	719	95
Westpark Elementary (K–6)	910	883	27
South Lake Middle School (7–8)	851	665	186
University High School (9–12)	2,676	2,211	465

Source: Barron pers. comm., California Department of Education

Note: Capacity and enrollment data was provided prior to the COVID-19 pandemic.

All parks and other public facilities that serve the IBC would also serve the residents of the project site.

3.15 Recreation

The project site is fully developed, and there are no existing public or private recreational amenities on the site. The nearest parks are San Marco Park, 0.86 mile east of the project site at 1 San Carlo, Irvine, CA; and San Carlo Park, directly east across Harvard Avenue from San Marco Park at 59 San Carlo, Irvine, CA. Other parks within the vicinity are San Mateo Park at 3370 Main Street, Irvine, CA, 1.1 miles east of the project site; and Colonel Bill Barber Marine Corps Memorial Community Park at 4 Civic Center Plaza, approximately 1.3 miles northeast of the project site (City of Irvine 2020).

3.16 Transportation/Traffic

The following information is based on the Traffic Study prepared by LSA in December 2020 (Appendix I).

The project site is developed with a currently vacant one-story 19,061-square-foot office building. The project site is bounded by Cartwright Road to the east and existing office/industrial uses to the north, south, and west. Access to the project site is provided via two access driveways along Cartwright Road (one northern shared driveway and one southern driveway). The existing northern driveway provides an exit-only driveway and is shared with the adjacent office use at 17801 Cartwright Road (Yogurtland Franchising, Inc.).

Key roadways in the vicinity of the proposed project are as follows.

- Cartwright Road–White Road:** Cartwright Road–White Road is classified as a Local Street. South of Main Street, Cartwright Road is an undivided, two-lane north-south roadway that transitions to the undivided, two-lane east-west roadway of White Road. Cartwright Road provides direct access to the project site. In the vicinity of the project site, on-street parking is permitted on the east side of Cartwright Road and the north side of White Road. Sidewalks are provided on both sides of Cartwright Road and White Road. There are no designated bike lanes on Cartwright Road, as this is a Local Street. However, bicycle travel can occur along this roadway.
- Main Street:** According to the City’s General Plan Circulation Element, Main Street is classified as a Major Highway. Major Highways provide for the movement of traffic between planning areas and/or the distribution of traffic to and from freeways or transportation corridors (City of

Irvine 2015c). Main Street is a divided, six-lane north-south roadway located north of the project site. The posted speed limit is 45 miles per hour. On-street (Class II) bicycle lanes and sidewalks are provided on both sides of the street. On-street parking is not permitted.

Transit facilities are accessible to and from the project site with OCTA and iShuttle stops in close proximity to the project site. The lines serviced by these stops provide direct access to regional transportation hubs.

3.17 Utilities and Service Systems

The project site is developed with a vacant, one-story commercial office building and does not generate natural gas, electricity, water, or solid waste resources.

Chapter 4

Environmental Impact Analysis

This chapter presents information and analysis of the environmental impacts potentially resulting from the proposed project. The analysis contained within this chapter addresses the changes to impacts identified in the IBC EIR that could occur as a result of the proposed project.

A summary of the IBC EIR findings is provided, followed by a discussion of the impacts associated with the proposed project and significance of the impacts. An environmental checklist form is included in Appendix A. Mitigation measures from the IBC EIR, or requirements incorporated into the IBC Vision Plan, are incorporated into the proposed project where applicable. Those measures and requirements fall into the following three categories.

- **Existing Plans, Programs, and Policies (PPP):** These measures include existing regulatory requirements or plans and programs that are applicable to the proposed project. For example, existing standard conditions set forth by the City of Irvine, such as the requirement that new structures meet seismic safety requirements (i.e., Uniform Building Code requirements), serve to reduce the potential for new development within the project site to be significantly affected by possible seismic events.
- **Project Design Features (PDF):** The analysis of each topic includes a description of any project design features proposed by the City of Irvine that are specifically intended and designed to reduce or avoid impacts.
- **Mitigation Measures (MM):** For those issue areas where the impacts analysis determines that implementation of the proposed project would result in significant impacts, mitigation measures are proposed in accordance with CEQA requirements.

4.1 Aesthetics

4.1.1 Summary of IBC EIR Findings

The certified EIR identified no potentially significant aesthetic impacts, as follows:

- Future development pursuant to the IBC Vision Plan would not substantially alter the visual character of the IBC area and its surroundings and no mitigation measures were required.
- Additional light and glare generated by specific development projects in accordance with the IBC Vision Plan would not substantially affect surrounding land uses. Outdoor lighting is required to be designed and installed so that direct rays are confined to the site and adjacent properties are protected from glare, and the level of lighting on the site must comply with the City's Uniform Security Code (IBC PPP 1-1). Prior to issuance of building permits, applicants must demonstrate through a photometric survey that lighting requirements of the Irvine Uniform Security Code are met (IBC PPP 1-2).
- Future development pursuant to the IBC Vision Plan may generate additional light and glare that could affect wildlife in the San Joaquin Freshwater Marsh and San Diego Creek. However, for specific high-rise office or residential development projects within 100 feet of the San Joaquin

Marsh or San Diego Creek, reflectivity shall be reduced through use of building surface materials and angles that are not highly reflective (IBC PDF 1-1).

4.1.2 Impacts of Proposed Project

The proposed project includes a residential development of one four-story condominium building with a total of 60 units and 107 parking spaces. The proposed project also includes an approximately 0.18-acre recreation courtyard with a pool and tot lot. The site is developed with a one-story office/light industrial building, surface parking lot, and moderate ornamental landscaping.

The project site is in a primarily mixed commercial and industrial area, with some existing and planned residential uses interspersed within a few blocks. Surrounding land uses include commercial office buildings to the north of the project site, a parking structure to the west, office and industrial buildings to the south, and the 457-unit Metropolis Apartments to the east of the project site, across Cartwright Road. Several other multi-story, multifamily residential uses are located in the project vicinity, along with several residential projects approved for development in the area, as discussed in Section 3.1, *Aesthetics*. The project site is located in an urbanized mixed-use setting with similar land uses, and would be consistent with the visual character of the surrounding area.

The proposed project would comply with the IBC Residential/Mixed Use Design Criteria, which are intended to guide the physical development of residential projects located within the boundaries of the IBC (City of Irvine 2010). These guidelines provide standards and criteria for new construction, including, but not limited to, building massing, height, and architectural detail; courtyard space; pedestrian access; and screening of utility equipment. Compliance with the IBC Residential/Mixed Use Design Criteria would create a project that is aesthetically pleasing and consistent with other surrounding residential development.

The proposed project would not significantly affect any visual resources identified in the IBC EIR. The only significant visual resource identified in the IBC EIR is the San Joaquin Freshwater Marsh outside the IBC's southeastern boundary. The project site is approximately 0.78 mile north of the marsh, and there is intervening development and views of the marsh are obstructed from the project site.

According to the IBC EIR, there are no significant visual landforms in the IBC or its vicinity. Additionally, the General Plan does not identify any significant visual resources, preservation areas, or major views in the IBC (City of Irvine 2012a). Furthermore, according to the California Scenic Highway Mapping System, the project site is not on or near a major State-designated scenic highway (Caltrans 2019). Therefore, the proposed project would not affect visual landforms, visual resources, major views, or scenic highways.

Light sources surrounding the project include general nighttime outdoor lights from existing office, industrial, and residential uses; vehicle lights associated with the existing office, industrial, and residential uses; and vehicle lights from adjacent roads. The proposed project would add to the light sources in the surrounding area; however, project lighting would be required to comply with City requirements for lighting to be confined to the project site. Therefore, adjacent properties would be protected from spillover light and glare.

The IBC EIR identified no potentially significant aesthetic impacts. The proposed project would not result in new significant impacts or require new mitigation measures that have not already been

addressed in the IBC EIR. Therefore, aesthetic impacts resulting from the proposed project would be less than significant, and there is not a substantial change from the previous conclusions.

4.1.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of the City's Uniform Security Code (IBC PPP 1-1) and completion of a photometric survey (IBC PPP 1-2) per the IBC EIR would be required for the proposed project.

PPP 1-1. As required by Chapter 3-16, *Lighting*, of the City's Zoning Ordinance, outdoor lighting shall be designed and installed so that all direct rays are confined to the site and adjacent properties are protected from glare. The level of lighting on the site shall comply with the requirements of the City's Uniform Security Code.

PPP 1-2. Prior to the issuance of building permits, the applicant shall demonstrate, through the submittal of an electrical engineer's photometric survey, prepared to the satisfaction of the Director of Community Development, that lighting requirements as set forth in the Irvine Uniform Security Code (Irvine Municipal Code, Title 5, Division 9, Chapter 5) are met (City of Irvine Standard Condition 3.6).

4.2 Agricultural and Forestry Resources

4.2.1 Summary of IBC EIR Findings

The Initial Study in support of the certified IBC EIR substantiated that there would be no impacts on agricultural resources. There are no designated farmlands, lands zoned for agricultural use, forest land, or timberlands within the IBC.

4.2.2 Impacts of Proposed Project

The project site is developed with an office/light industrial building and no agricultural or forestry resources exist on the project site or in the vicinity. As a result, no impacts on agricultural or forestry resources would occur.

4.2.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

None required.

4.3 Air Quality

4.3.1 Summary of IBC EIR Findings

The certified IBC EIR identified the following air quality impacts as significant and unavoidable with the following IBC PPPs and PDFs included:

- Regional population, housing, and employment growth projections in the IBC were not accounted for in the SCAQMD Plan (2007).
 - PPP 2-1. SCAQMD Rule 201 – Permit to Construct
 - PPP 2-2. SCAQMD Rule 402 – Nuisance Odors
 - PPP 2-3. SCAQMD Rule 403 – Fugitive Dust (PM₁₀ and PM_{2.5})
 - PPP 2-4 SCAQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities
 - PDF 2-1. Health Risk Assessments for Residential Projects within Specified Distances of Certain Industrial Uses
 - PDF 2-2. Requirements for New Residential Developments within 500 Feet of I-405
 - PDF 2-3. Minimum Separation Distance from I-405 for Outdoor Active-Use Public Recreational Areas
 - PDF 2-4. Health Risk Assessments for Residential Projects within 1,000 Feet of Industrial Facility that Emits TACs
 - PDF 2-5. Odor Assessment for Residential Projects within 1,000 Feet of Industrial Facility that Emits Substantial Odors
 - PDF 2-6. Tier 3 U.S. Environmental Protection Agency (USEPA) Emission Standards for Off-Road Construction Equipment
 - PDF 2-7. Construction Equipment Properly Serviced and Maintained/Restrictions on Nonessential Idling of Construction Equipment
 - PDF 2-8. Construction Dust Control Plan and Enhanced Fugitive Dust Control Measures
- Construction emissions associated with buildout of the IBC would generate short-term emissions that exceed the SCAQMD's regional significance thresholds for volatile organic compounds (VOCs), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter 10 microns or smaller in diameter (PM₁₀), and particulate matter 2.5 microns or smaller in diameter (PM_{2.5}) and would significantly contribute to the nonattainment of designations of SCAB for ozone and particulate matter (PM₁₀ and PM_{2.5}). Refer to PPP 2-1 through PPP 2-4 and PDF 2-6 through PDF 2-9.
- Buildout of the IBC would generate long-term stationary- and mobile-source emissions that exceed the SCAQMD regional significance threshold and significantly contribute to the nonattainment designations of the SCAB for ozone and particulate matter (PM₁₀ and PM_{2.5}). Refer to Global Climate Change PPP 15-2 through PPP 15-13 and PDF 15-3 through PDF 15-17.
- Project-related construction activities could expose sensitive receptors to substantial pollutant concentrations of NO_x, PM₁₀, and PM_{2.5}. Refer to PPP 2-1 through PPP 2-4 and PDF 2-6 through PDF 2-9.
- Development of residential uses within the IBC could be within the California Air Resources Board's (CARB's) recommended buffer distances from I-405 or existing distribution centers, chrome platers, dry cleaners, or gas stations. Refer to PDF 2-1 through 2-5.

The certified EIR found the following air quality impacts to be less than significant:

- Operation of the IBC would not expose offsite sensitive receptors to substantial concentrations of nitrogen dioxide, CO, PM₁₀, and PM_{2.5}.

- New land uses within the IBC would not create objectionable odors; however, new residential land uses could be proximate to existing odor generators. Refer to PDF 2-5.

4.3.2 Impacts of Proposed Project

The proposed project would result in the generation of criteria pollutant and TAC emissions during short-term construction and long-term operations. Construction activities would produce fugitive dust and exhaust emissions associated with building demolition, site grading, onsite construction equipment, haul and delivery trucks, motor vehicles transporting the construction crew, and off-gassing from the application of asphalt paving and architectural coatings. Emissions from construction activities would vary daily depending on the level of activity, specific construction operations, types of equipment, number of personnel, and climatic conditions.

Once operational, the proposed 60-unit apartment building would result in emissions associated with both mobile (e.g., motor vehicle trips), energy (e.g., natural gas), and area (e.g., consumer products, architectural coatings, landscaping) sources in different quantities than the existing office and parking uses. As summarized in Table 4.3-1 through Table 4.3-4, construction and operation of the proposed project would result in net increases in emissions above existing conditions, but these increases would be below SCAQMD criteria pollutant thresholds at both the regional and localized scale.

As shown in Table 4.3-4, regional construction emissions would not exceed SCAQMD significance thresholds for any criteria pollutant. Therefore, the proposed project would not result in a cumulatively considerable net increase in any criteria pollutant for which the project region is a nonattainment area with respect to the applicable federal or state ambient air quality standard. Construction impacts would be less than significant.

Table 4.3-1: Regional Criteria Pollutant Construction Emissions

Construction Phase	Estimated Maximum Daily Regional Pollutant Emissions (pounds per day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Demolition	0.99	12.89	7.51	0.04	2.58	0.63
Utilities	0.56	5.75	5.97	0.02	0.79	0.29
Grading	1.54	18.31	10.54	0.03	2.81	0.85
Building Construction	0.30	2.29	4.80	0.01	1.93	0.36
Street Paving	0.75	3.83	5.36	0.01	0.34	0.22
Architectural Coating	36.17	1.91	2.88	0.01	0.25	0.15
Maximum Daily Regional Emissions	36.91	24.06	16.52	0.05	4.74	1.22
SCAQMD Regional Thresholds	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: Modeling output provided in Appendix C.

Note: Totals may not add exactly due to rounding.

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate matter less than 10 microns in diameter

PM_{2.5} = particulate matter less than 2.5 microns in diameter

ROG = reactive organic gases

SO_x = sulfur oxides

As shown in Table 4.3-2, localized construction emission would not exceed LSTs for any criteria pollutant. Therefore, the proposed project would not expose local receptors to substantial pollutant concentrations, and localized construction impacts would be less than significant.

Table 4.3-2: Localized Criteria Pollutant Construction Emissions

Construction Phase	Estimated Maximum Daily Onsite Emissions (lbs/day) ^b			
	NO _x	CO	PM ₁₀	PM _{2.5}
Demolition	9.12	6.14	2.03	0.45
Utilities	5.38	5.56	0.65	0.25
Grading	16.81	9.87	2.56	0.77
Building Construction	1.23	2.06	1.10	0.13
Street Paving	3.79	4.91	0.19	0.18
Architectural Coating	1.88	2.42	0.11	0.11
Maximum Daily Onsite Emissions	22.19	15.43	3.66	1.02
<i>Applicable LSTs^a</i>	115.8	880.1	5.2	3.6
Exceeds Threshold?	No	No	No	No

Source: CalEEMod modeling output provided in Appendix C.

Source: SCAQMD 2003 (revised 2008).

^a The LSTs for a 1.62-acre site in SRA 19 were estimated from the corresponding LSTs for a 1-acre and 2-acre site in SRA 19 (obtained from Appendix C [Localized Significance Threshold Screening Tables] of SCAQMD's Final Localized Significance Threshold Methodology document), using the linear regression calculation recommended by SCAQMD.

^b Although SCAQMD's mass-rate lookup tables present LST values for receptor distances of 25, 50, 100, 200, and 500 meters from a project's site boundary, for the purpose of this analysis only, the LST values at a receptor distance of 25 meters is provided because LSTs at this distance are the most conservative and best meet the distances at which the nearest offsite sensitive receptors are from the project site among the distances in SCAQMD's LST lookup tables. According to SCAQMD's LST methodology, it is recommended that projects with boundaries closer than 25 meters from the nearest receptor use the LSTs for receptors located at 25 feet.

^c The localized thresholds listed for NO_x in this table take into consideration the gradual conversion of NO to NO₂. The analysis of localized air quality impacts associated with NO_x emissions focuses on NO₂ levels because of their association with adverse health effects.

As shown in Table 4.3-4, regional operational emissions would not exceed SCAQMD significance thresholds for any criteria pollutant. Therefore, the proposed project would not result in a cumulatively considerable net increase in any criteria pollutant for which the project region is a nonattainment area with respect to the applicable federal or state ambient air quality standard. Operational impacts would be less than significant.

Table 4.3-3: Proposed Project Criteria Pollutant Operational Emissions

Source	Estimated Maximum Daily Regional Pollutant Emissions (pounds per day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area	1.47	1.05	5.39	<0.01	0.11	0.11
Energy	0.02	0.18	0.08	<0.01	0.01	0.01
Mobile	0.83	1.81	8.62	0.03	2.39	0.65
Project Total	2.32	3.04	14.09	0.03	2.51	0.78
SCAQMD Regional Thresholds	55	55	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

Source: Modeling output provided in Appendix C.

Note: Totals may not add exactly due to rounding.

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate matter less than 10 microns in diameter

PM_{2.5} = particulate matter less than 2.5 microns in diameter

ROG = reactive organic gases

SO_x = sulfur oxides

As shown in Table 4.3-4, localized operational emissions would not exceed LSTs for any criteria pollutant. Therefore, the proposed project would not expose local receptors to substantial pollutant concentrations and localized operational impacts would be less than significant.

Table 4.3-4: Localized Criteria Pollutant Operational Emissions

Emissions Source	Estimated Maximum Daily On-site Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Area	1.05	5.39	0.11	0.11
Energy	0.18	0.08	0.01	0.01
Project Total	1.23	5.47	0.12	0.12
Applicable LSTs ^a	115.8	880.1	1.6	1.0
Threshold Exceeded?	No	No	No	No

Source: CalEEMod modeling output provided in Appendix C.

Note: Totals may not add exactly due to rounding.

^a The LSTs for a 1.62-acre site in SRA 19 were estimated from the corresponding LSTs for a 1-acre and 2-acre site in SRA 19 (obtained from Appendix C [Localized Significance Threshold Screening Tables] of SCAQMD's *Final Localized Significance Threshold Methodology* document), using the linear regression calculation SCAQMD recommends.

The proposed project would comply with regional rules established by SCAQMD and included in the IBC EIR, which would assist in reducing the generation and potential exposure of nearby receptors to criteria pollutants, TAC, and nuisance-causing emissions. Fugitive dust from a construction site would be controlled with mandatory implementation of best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source per IBC PDF 2-8. Dust suppression techniques should be implemented to prevent fugitive dust from creating a nuisance off site. Implementation of these dust-suppression techniques would reduce fugitive PM₁₀ and PM_{2.5} dust generation by 50 percent or more. Additionally, the project would include architectural coatings, which contain VOCs, an ozone precursor. Compliance with PDF 2-9 would ensure that coating VOC content is lower than required under Rule 1113 and would ensure VOC emissions from architectural coatings would remain below significance levels.

Diesel particulate matter (DPM), which CARB classifies as a carcinogenic TAC, is the primary pollutant of concern with regard to health risks to sensitive receptors. With regard to construction-related health risks, the closest sensitive receptors are the residential units east of the project site, immediately across Cartwright Road. Construction activities would be temporary and occur over an approximately 19-month period, which is much shorter than the assumed 30-year exposure period used to estimate lifetime cancer risks. DPM emitted by these sources can remain airborne for several days. However, given that prevailing winds at the project site are primarily out of the south-southwest (i.e., to the north-northeast), pollutant emission concentrations at nearby residences are expected to be well dispersed and minimal. Construction activities would be sporadic, transitory, and short-term in nature and, once construction activities cease, so too would the source emissions. Additionally, the IBC PDFs would reduce TAC emissions, including DPM, beyond those shown herein. PDF-2-6 requires all construction to be compliant with USEPA Tier 3 standards, whereas PDF-2-7 requires all equipment to be properly serviced and limits nonessential idling. Thus, diesel-related activity occurring onsite would be short term and occur at distances not expected to expose sensitive receptor locations to substantial pollutant concentrations.

With regard to potential health risk associated with operations, an HRA was performed for the project that examines the potential cancer risk, chronic, and acute chronic health effects from emissions in the area surrounding the proposed project (see Appendix C). The sources included in the analysis are I-405, local surface streets, and diesel-truck idling emissions from loading docks of four facilities. Details on the DPM and TAC sources are provided in Appendix C. As shown in Table 4.3-5, health impacts to future residents at the project would be below all SCAQMD health risk thresholds. Therefore, no significant health risk would occur from the combination of traffic on nearby roads and permitted facilities, and no mitigation is necessary. Appendix B of the *Air Quality and Greenhouse Gas Technical Report* (Appendix C) contains detailed information related to health risk calculations.

Table 4.3-5: Residential Health Risk Summary

Receptor Type	Cancer Risk (per million)	Chronic HI	Acute HI
Residential	9.35	5.50E-03	2.95E-03
SCAQMD Thresholds	10	1	1
Exceeds Threshold?	No	No	No

HI = hazard index

With regard to CO hotspots, the *Air Quality and Greenhouse Gas Technical Report* (Appendix C) states that the proposed project would not result in CO hotspots at nearby intersections. SCAQMD's 2003 AQMP determined that one of the most heavily traveled intersections in Los Angeles County had a daily volume of 100,000 vehicles and did not exceed the ambient air quality thresholds for CO. The busiest intersection evaluated in the project traffic study (Appendix I) had a daily volume of 98,410 vehicles. Because the daily amount of vehicles at this study intersection would not exceed 100,000 vehicles per day, it can be concluded that the proposed project would not exceed the most stringent 1-hour and 8-hour CO standards, and no detailed CO hot spots analysis for the proposed project would be required. In addition, mobile-source CO emissions and ambient CO background concentrations are substantially lower during year 2019 (most recent year with complete data) than they were during the 2003 CO attainment demonstration. For example, the 8-hour background CO concentration in 2003 was 1.6 parts per million (ppm), compared to 0.7 ppm at year 2019. This represents a 56 percent reduction in project area background CO concentrations. The California ambient air quality standard for the 8-hour CO concentration is 9.0 ppm. For these reasons, the

proposed project would not result in impacts related to CO hot spots and would not contribute a significant level of CO such that localized air quality and human health would be substantially degraded. The *Air Quality and Greenhouse Gas Technical Report* (Appendix C) contains further details regarding the CO hotspot analysis.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting areas, refineries, landfills, dairies, and fiberglass molding facilities. During construction of the proposed project, odors would be minimal and may be generated by diesel trucks and heavy-duty construction equipment used on site, as well as from the applicant of asphalt and architectural coatings. SCAQMD Rule 402 prohibits the discharge of pollutants that can cause a nuisance to nearby receptors, Rule 1108 limits the amount of VOC emissions from cutback asphalt, and Rule 1113 limits the amount of VOC emissions from architectural coatings. Operation of the project is not expected to result in substantial odors, as the proposed project contains no facilities identified by CARB and SCAQMD as odor-generating facilities. Therefore, the proposed project is not expected to create objectionable odors affecting a substantial number of people.

The IBC EIR identified that development of the IBC would increase air quality impacts related to contribution to existing or projected air quality violations from both construction and operations. The IBC EIR identified mitigation measures that reduced these potential impacts, but not to less-than-significant levels. The City adopted Findings that reduction below significant levels was not feasible and adopted a Statement of Overriding Considerations for these impacts. The emissions generated by the proposed project would be within the emissions projected in the IBC EIR for the project site and would not result in any new significant air quality impacts.

4.3.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of PPPs 2-2 through 2-4, as well as PDFs 2-1, 2-4, and 2-6 through 2-9 would apply to the proposed project. PDF 2-1 and PDF 2-4 were satisfied through preparation of the HRA (see Appendix C).

PPP 2-2. SCAQMD Rule 402 – Nuisance Odors: The SCAQMD prohibits the discharge of any quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property to be emitted within the SCAB.

PPP 2-3. SCAQMD Rule 403 – Fugitive Dust (PM₁₀ and PM_{2.5}): The SCAQMD prohibits any person to cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that: (a) the dust remains visible in the atmosphere beyond the property line of the emission source; or (b) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook) if the dust emission is the result of movement of a motorized vehicle.

PPP 2-4. SCAQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities: This rule specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the

removal and associated disturbance of asbestos-containing materials (ACM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

PDF 2-1. As described in the proposed zoning for the project and based on the recommended buffer distances of CARB, for all residential or residential mixed-use projects within the distances to industrial uses outlined below, the project applicant shall submit an HRA prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the SCAQMD to the Community Development Director prior to approval of any future discretionary residential or residential mixed use project. If the HRA shows that the incremental cancer risk exceeds one in one hundred thousand (1.0E-05), or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that Best Available Control Technologies for Toxics (T-BACTs) are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers at the industrial facility, or installation of Minimum Efficiency Reporting Value (MERV) filters rated at 14 or better at all residential units.

- 1,000 feet from the truck bays of an existing distribution center that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units, or where transport refrigeration unit operations exceed 300 hours per week.
- 1,000 feet from an existing chrome plating facility or facility that uses hexavalent chromium.
- 300 feet from a dry cleaning facility using perchloroethylene using one machine and 500 feet from a dry cleaning facility using perchloroethylene using two machines.
- 50 feet from gas pumps within a gas-dispensing facility and 300 feet from gas pumps within a gasoline-dispensing facility with a throughput of 3.6 million gallons per year or greater.

PDF 2-4. For all residential projects located within 1,000 feet of an industrial facility that emits TACs, the project applicant shall submit a health risk assessment prepared in accordance with policies and procedures of the state OEHHA and SCAQMD to the Community Development Director prior to approval of any future discretionary residential or mixed-use project. If the HRA shows that the incremental cancer risk exceeds one in one hundred thousand (1.0E-05), or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that T-BACTs are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers at the industrial facility, or installation of MERV filters rated at 14 or better at all residential units.

PDF 2-6. Applicants for new developments in the IBC shall require that the construction contractor utilize off-road construction equipment that conforms to Tier 3 of the

USEPA, or higher emissions standards for construction equipment over 50 horsepower that are commercially available. The construction contractor shall be made aware of this requirement prior to the start of construction activities. Use of commercially available Tier 3 or higher off-road equipment, or:

- Year 2006 or newer construction equipment for engines rated equal to 175 horsepower (hp) and greater;
- Year 2007 and newer construction equipment for engines rated equal to 100 hp but less than 175 hp; and
- 2008 and newer construction equipment for engines rated equal to or greater than 50 hp.

The use of such equipment shall be stated on all grading plans. The construction contractor shall maintain a list of all operating equipment in use on the project site. The construction equipment list shall state the makes, models, and numbers of construction equipment on site.

PDF 2-7. Applicants for new developments in the IBC shall require that the construction contractor to properly service and maintain construction equipment in accordance with the manufacturer's recommendations. Nonessential idling of construction equipment shall be restricted to five minutes or less in compliance with CARB's Rule 2449.

PDF 2-8. Applicants for new developments in the IBC shall require that the construction contractor prepare a dust control plan and implement the following measures during ground-disturbing activities in addition to the existing requirements for fugitive dust control under SCAQMD Rule 403 to further reduce PM₁₀ and PM_{2.5} emissions. To ensure compliance, the City shall verify compliance that these measures have been implemented during normal construction site inspections:

- During all grading activities, the construction contractor shall reestablish ground cover on the construction site through seeding and watering. This would achieve a minimum control efficiency for PM₁₀ of 5 percent.
- During all construction activities, the construction contractor shall sweep streets with Rule 1186 compliant PM₁₀-efficient vacuum units on a daily basis if silt is carried over to adjacent public thoroughfares or occurs as a result of hauling.
- During all construction activities, the construction contractor shall maintain a minimum 24-inch freeboard on trucks hauling dirt, sand, soil, or other loose materials and tarp materials with a fabric cover or other suitable means. This would achieve a control efficiency for PM₁₀ of 91 percent.
- During all construction activities, the construction contractor shall water exposed ground surfaces and disturbed areas a minimum of every three hours on the construction site and a minimum of three times per day. This would achieve an emissions reduction control efficiency for PM₁₀ of 61 percent.

- During all construction activities, the construction contractor shall limit on-site vehicle speeds on unpaved roads to no more than 15 miles per hour. This would achieve a control efficiency for PM₁₀ of 57 percent.
- The construction contractor shall apply chemical soil stabilizers to reduce wind erosion. This would achieve a control efficiency of up to 80 percent.

PDF 2-9. Applicants for new developments in the IBC shall require that the construction contractor use coatings and solvents with a VOC content lower than required under Rule 1113 (i.e., Super Compliant Paints). All architectural coatings shall be applied either by (1) using a high-volume, low-pressure spray method operated at an air pressure between 0.1 and 10 pounds per square inch gauge to achieve a 65 percent application efficiency; or (2) manual application using a paintbrush, hand-roller, trowel, spatula, dauber, rag, or sponge, to achieve a 100 percent applicant efficiency. The construction contractor shall also use precoated/natural colored building, where feasible. Use of low-VOC paints and spray method shall be included as a note on architectural building plans.

4.4 Biological Resources

4.4.1 Summary of IBC EIR Findings

The certified EIR identified no potentially significant biological resource impacts.

- The project would not have a direct substantial adverse effect on any species identified as a 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).
- The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- The project would not have a substantial adverse effect on state or federally protected wetlands (e.g., marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.

4.4.2 Impacts of Proposed Project

The 1.62-acre site is developed with a one-story, rectangular-shaped building and a surface parking lot. Moderate ornamental landscaping occurs along the site boundaries in all directions and consists

of overgrown and unkempt trees, shrubs, and grass. The project site does not contain any of the following:

- Riparian habitat
- Sensitive natural communities identified in local or regional plans, policies, or regulations or by CDFW or USFWS
- Known wetlands
- Native resident or migratory fish, wildlife species, or wildlife corridors
- Protected biological resources
- Native plant communities or wildlife habitat

According to the General Plan Conservation and Open Space Element, there is no identified habitat conservation plan, natural community conservation plan, or other applicable habitat conservation plan within or adjacent to the project site (City of Irvine 2015e). In addition, the IBC EIR states that most of the IBC area is developed with urban land uses and it does not function as a wildlife movement corridor. Therefore, the proposed project would intensify urban land uses within an already developed area, and thus is not expected to have an effect on wildlife movement, including migratory species. Implementation of the project would not cause any significant impacts related to these issues; however, the project would be required to comply with existing plans, programs, or policies as they relate to the City's Urban Forestry Ordinance (Section 5-7-410 of the Irvine Municipal Code), specific to tree removal. As a result, no new impacts are anticipated that were not addressed in the IBC EIR.

4.4.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Adherence to PPP 3-2 would require that if any protected trees are to be removed, the applicant must first carry out a tree survey and obtain a permit to remove any significant tree to minimize potential impacts on protected biological resources. Trees on nonresidential properties are subject to replacement criteria at a one-to-one ratio onsite or offsite, as prescribed in the City's Urban Forestry Ordinance, based on the determination by the City.

PPP 3-2 If any trees are removed, the applicant shall carry out a tree survey and obtain a permit for their removal in accordance with the City's tree preservation ordinance (including 1:1 replacement).

4.5 Cultural Resources

4.5.1 Summary of IBC EIR Findings

The certified IBC EIR identified no potentially significant cultural resource impacts. However, the EIR identified two PPPs to further reduce these less-than-significant impacts.

- Development of the project could affect prehistoric archaeological sites with burials and the proposed project could destroy paleontological resources or a unique geologic feature. However, prior to issuance of grading permits, project applicants are required to demonstrate

retention of an archaeologist and paleontologist who shall remain on call during grading and other significant ground-disturbing activities (IBC PPP 4-1).

- Grading activities could potentially disturb human remains. However, in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, specified steps are to be taken for the treatment and disposition of any remains encountered (IBC PPP 4-2).

4.5.2 Impacts of Proposed Project

According to the IBC EIR, no cultural resources are known to exist on the project site. Three archaeological resources are identified within the IBC; however, these sites are in the southern portion of the IBC and are not near the project site (City of Irvine 2012b). As such, the proposed project would not result in new significant impacts or require new mitigation measures that have not already been addressed in the IBC EIR.

4.5.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of IBC PPP 4-1 and IBC PPP 4-2 would apply to the proposed project to minimize impacts on archaeological resources and human remains.

- PPP 4-1.** Prior to the issuance of the first preliminary or precise grading permits for each planning area, and for any subsequent permit involving excavation to increased depth, the applicant shall provide letters documenting retention of an archaeologist and a paleontologist for the project. The letters shall state that the applicant has retained these individuals, and that the consultants will be on call during all grading and other significant ground-disturbing activities. These consultants shall be selected from the roll of qualified archaeologists and paleontologists maintained by the County of Orange. The archaeologist and/or paleontologist shall meet with Community Development staff, and shall submit written recommendations specifying procedures for cultural/scientific resource surveillance. These recommendations shall be reviewed and approved by the Director of Community Development prior to issuance of the grading permit and prior to any surface disturbance on the project site. Should any cultural/scientific resources be discovered, no further grading shall occur in the area of the discovery until the Director of Community Development is satisfied that adequate provisions are in place to protect these resources. Unanticipated discoveries shall be evaluated for significance by an Orange County Certified Professional Archaeologist/Paleontologist. If significance criteria are met, then the project shall be required to perform data recovery, professional identification, radiocarbon dates, and other special studies; submit materials to a museum for permanent curation; and provide a comprehensive final report including catalog with museum numbers. Persons performing this work shall be Orange County Certified Professional Archaeologists/Paleontologists (City of Irvine Standard Condition 2.5, as modified).

- PPP 4-2.** In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, one of the following steps shall be taken:
- There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the Orange County Coroner is contacted to determine if the remains are prehistoric and that no investigation of the cause of death is required. If the coroner determines the remains to be Native American, then the coroner shall contact the Native American Heritage Commission within 24 hours, and the Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent from the deceased Native American. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.
 - Where the following conditions occur, the land owner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendent or on the property in a location not subject to further subsurface disturbance:
 - The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
 - The identified descendent fails to make a recommendation; or
 - The landowner or his/her authorized representative rejects the recommendation of the descendent, and mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. (CEQA Guidelines Section 15064.5[e])

4.6 Geology and Soils

4.6.1 Summary of IBC EIR Findings

The certified EIR identified no potentially significant geology and soils impacts. However, the EIR identified several PPPs to further reduce the less-than-significant impacts.

- Future residents and employees could be subject to strong earthquakes. With compliance with the following identified PPPs, no significant impacts would occur.
 - IBC PPP 5-1. Revegetation of cut and fill slopes in accordance with City of Irvine Grading Code and Grading Manual
 - IBC PPP 5-2. Grading operations and construction in conformance with City of Irvine Grading Code and Grading Manual
 - IBC PPP 5-3. Detailed geotechnical investigation reports for each Rough Grading Plan to evaluate faults, subsidence, slope stability, settlement, foundations, grading constraints,

- liquefaction potential, issues related to shallow groundwater, and other soil engineering design conditions and provide site-specific recommendations to mitigate these issues/hazards
- IBC PPP 5-4. Grading and earthwork performed under the observation of a Registered Civil Engineer specializing in Geotechnical Engineering
 - IBC PPP 5-5. Grading and earthwork performed under the observation of a Certified Engineering Geologist
 - IBC PPP 5-6. Future buildings and structures designed in accordance with the City of Irvine Building Code and most recent Uniform Building Code and/or California Building Code
 - Future development could potentially be subjected to seismic-related ground failure, including landslides, lateral spreading, subsidence, liquefaction, or collapse, resulting in risks to life and property. With compliance with IBC PPPs 5-1 through 5-6, above, no significant impacts would occur.
 - The project would not result in substantial soil erosion or the loss of topsoil.
 - The project could have corrosive or expansive soil. With compliance with IBC PPPs 5-1 through 5-6, above, no significant impacts would occur.

4.6.2 Impacts of Proposed Project

Earthquakes are common to southern California and have historically occurred in the project area. While no active surface faults are mapped or known to cross the IBC area, several known regional active and potentially active faults could produce significant ground shaking that could affect the project site. The nearest zoned fault is the Newport–Inglewood Fault, located approximately 8 miles to the west-southwest from the site; thus, it would not pose a significant rupture hazard. In addition, because of shallow groundwater and subsurface soil properties, the proposed project would be subject to potential liquefaction hazards during a seismic event. Also, the project site is potentially subject to expansive soils. These impacts have been previously covered in the IBC EIR and would be reduced to less-than-significant levels with the incorporation of PPPs.

4.6.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of IBC PPPs 5-1 through 5-6 would apply to the proposed project and would minimize the potential for significant impacts related to geotechnical conditions.

- PPP 5-1.** Revegetation of cut and fill slopes shall be required in accordance with the City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual.
- PPP 5-2.** All grading operations and construction will be conducted in conformance with the applicable City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, the most recent version of the California Building Code, and consistent with the recommendations included in the most current geotechnical reports for the project area prepared by the engineer of record.
- PPP 5-3.** In accordance with the City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, detailed geotechnical investigation reports for

each Rough Grading Plan shall be submitted to further evaluate faults, subsidence, slope stability, settlement, foundations, grading constraints, liquefaction potential, issues related to shallow groundwater, and other soil engineering design conditions and provide site-specific recommendations to mitigate these issues/hazards. The geotechnical reports shall be prepared and signed/stamped by a Registered Civil Engineer specializing in geotechnical engineering and a Certified Engineering Geologist. The City of Irvine Geotechnical Engineer/Engineering Geologist shall review the rough grading plan to ensure conformance with recommendations contained in the reports.

PPP 5-4. In accordance with the City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, grading and earthwork shall be performed under the observation of a Registered Civil Engineer specializing in Geotechnical Engineering in order to achieve proper subgrade preparation, selection of satisfactory fill materials, placement and compaction of structural fill, stability of finished slopes, design of buttress fills, subdrain installation, and incorporation of data supplied by the engineering geologist.

PPP 5-5. In accordance with the City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, grading and earthwork shall also be performed under the observation of a Certified Engineering Geologist to provide professional review and written approval of the adequacy of natural ground for receiving fills, the stability of cut slopes with respect to geological matters, and the need for subdrains or other groundwater drainage devices. The geologist shall geologically map the exposed earth units during grading to verify the anticipated conditions, and if necessary, provide findings to the geotechnical engineer for possible design modifications.

PPP 5-6. Future buildings and structures (e.g., houses, retaining walls) shall be designed in accordance with the City of Irvine Building Code and the most recent Uniform Building Code and/or California Building Code. The concrete utilized shall take into account the corrosion and soluble sulfate soil conditions at the site. The structures shall be designed in accordance with the seismic parameters included in the Uniform Building Code and/or California Building Code.

4.7 Greenhouse Gas Emissions

4.7.1 Summary of IBC EIR Findings

The certified IBC EIR found the following impact to be less than significant with implementation of the identified IBC PPPs and PDFs.

- Project-related GHG emissions could significantly contribute to global climate change impacts or conflict with the CARB-adopted Scoping Plan. The following IBC PPPs and PDFs were included to reduce this impact.
 - PPP 15-1. City of Irvine Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance

- PPP 15-2. 2008 Building and Energy Efficiency Standards (CCR Title 24)
- PPP 15-3. Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential)
- PPP 15-4. California Renewable Portfolio Standard
- PPP 15-5. California Low Carbon Fuel Standard
- PPP 15-6. Federal Corporate Average Fuel Economy (CAFE) Standards
- PPP 15-7. California Assembly Bill (AB) 1493 – Pavley Standards
- PPP 15-8. Senate Bill (SB) 375
- PPP 15-9. Transit Service to LAX
- PPP 15-10. Comprehensive Signal Retiming and Coordination Program
- PPP 15-11. Additional Fixed Route Shuttle System to Complement the i Shuttle
- PPP 15-12. Energy Efficient Traffic Lights
- PPP 15-13. Waste Reduction
- PPP 15-14. Renewable Energy and Existing Buildings Retrofit Program
- PPP 15-15. Safe Route to Schools
- PPP 15-16. Circulation Phasing Analysis
- PDF 15-1. Alternate Transportation Incentives
- PDF 15-2. Recycled Materials
- PDF 15-3. Compact/Mixed-Use Development
- PDF 15-4. High Rate of Internal Trip Capture
- PDF 15-5. Office/Commercial Development Heat Island Standards
- PDF 15-6. Urban Infill Near Multiple Transit Modes
- PDF 15-7. Transportation Management Association (TMA)
- PDF 15-8. Pedestrian Improvements
- PDF 15-9. Bicycle Improvements
- PDF 15-10. Ultra-Low Flow Fixtures
- PDF 15-11. Landscaping and Irrigation Systems
- PDF 15-12. Use of Reclaimed Water on All Master Landscaped Areas
- PDF 15-13. Material Recovery
- PDF 15-14. GreenPoint Rated Residential Buildings
- PDF 15-15. Designed to Earn the Energy Star Non-Residential Buildings

4.7.2 Impacts of Proposed Project

The State CEQA Guidelines do not specify what amount of GHG emissions would constitute a significant impact on the environment. Instead, they leave the determination of the significance of

GHG emissions up to the lead agency and authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence (CEQA Guidelines Sections 15064.4(a) and 15064.7(c)).

Neither the City nor SCAQMD has adopted a threshold with supporting analysis setting forth approaches and guidelines for analyzing GHG emissions and climate change in CEQA documents. In the absence of quantitative GHG thresholds and/or a qualified GHG reduction plan for use by a project, CEQA provides that a lead agency could rely on regulatory compliance to show a less-than-significant GHG impact if the project complies with or exceeds those programs adopted by CARB or other state agencies. As discussed previously, the proposed project is expected to be in operation by 2022. Beyond 2020, the state has established a GHG emissions reduction target for 2030 that has been codified in law through SB 32 and the 2017 Scoping Plan was adopted to meet this goal. Therefore, 2030 marks the next statutory statewide milestone target applicable to the Project. The plan to achieve these statewide emission reduction goals is provided by the 2017 Scoping Plan (and future updates), and demonstrating consistency with the 2017 Scoping Plan will demonstrate that the proposed project is doing its fair share toward achieving statewide reduction targets.

Overall, of the threshold options discussed above, the approach used in this analysis is compliant with regulatory programs, which is appropriate in addressing the proposed project's post-2020 completion and operation. Under this threshold approach, the proposed project's GHG emissions are evaluated for each major emission sector (e.g., energy, water, waste, mobile, and stationary) addressed in the 2017 Scoping Plan to determine whether the project's emissions would conflict with applicable sector-specific reduction targets and strategies identified in the 2017 Scoping Plan to meet the state's 2030 target under SB 32.

In the absence of any adopted quantitative threshold, and in accordance with case law and the CEQA Guidelines, the lead agency has determined that the proposed project would not have a significant effect on the environment if the project is found to be consistent with applicable regulatory plans and policies to reduce GHG emissions, including the emissions reduction measures discussed within CARB's 2017 Scoping Plan and SCAG's 2020-2045 RTP/SCS.

Note that GHGs and climate change are exclusively cumulative impacts; there are no non-cumulative GHG emissions impacts from a climate change perspective (California Air Pollution Control Officers Association 2008). Therefore, in accordance with the scientific consensus regarding the cumulative nature of GHGs, the analysis herein analyzes the cumulative contribution of proposed project-related GHG emissions.

The proposed project would generate GHGs during both construction and operations. Short-term construction activities would result in GHG emissions from fuel combustion within heavy equipment and motor vehicles. Once constructed, operation of the proposed 60-unit residential complex would result in emissions associated with motor vehicle trips, natural gas, electricity, and water consumption, and wastewater and solid waste generation, and in different quantities than existing office and parking uses. GHG emissions from construction are shown Table 4.7-1. The sum of amortized construction emissions were added to the annual operation of the proposed project. As shown in Table 4.7-2, annual emission of the proposed project would result in a net increase of approximately 657 MTCO_{2e}. The proposed project would include a multitude of design features that would be consistent with GHG reduction strategies identified locally by the City of Irvine and statewide within AB 32 and recommended by the Climate Action Team and the Attorney General's office. For example, Project Feature GCC-1 would ensure the project implements various

construction, energy efficiency, water conservation, solid waste, and transportation measures consistent with IBC PPPs and PDFs to reduce GHG emissions below business-as-usual conditions. Therefore, because the proposed project would be consistent with City of Irvine and statewide strategies and measures designed to reduce GHG emissions and meet the reduction goals codified in state law by AB 32 and Executive Order (EO) S-3-05, the proposed project's emissions would not result in significant impacts, and the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

Table 4.7-1. Estimated Short-term Construction-Related GHG Emissions

Construction Phase	Total Estimated GHG Emissions (MTCO _{2e}) ^a
Demolition	32.53
Utilities	11.34
Grading	41.63
Building Construction	191.91
Street Paving	3.93
Architectural Coating	2.29
Total Construction Emissions	283.64
Annual Construction Emission (Amortized over 30 years)	9.45

Source: Emissions modeling by ICF using CalEEMod version 2016.3.2 (Appendix C).

^a Totals may not add up due to rounding.

Table 4.7-2. Estimated Annual Greenhouse Gas Emissions from Project Operation in 2022 (metric tons per year)

Emission Source	Estimated Annual GHG Emissions (MTCO _{2e} per year)
Area	15.53
Electricity	64.02
Natural Gas	38.08
Mobile	421.32
Waste	35.81
Water	27.17
Construction	9.45
Project Emissions Total	611.40

Source: ICF Emissions Modeling (Appendix C).

^a Totals may not add up due to rounding.

4.7.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of IBC PPPs 15-1, 15-2, and 15-3, as well as IBC PDFs 15-1, 15-2, and 15-10 through 15-12, would apply to the proposed project and would minimize the potential for significant impacts from GHGs.

PPP 15-1. City of Irvine C&D Debris Recycling and Reuse Ordinance: The C&D ordinance requires that (1) all residential projects of more than one unit, (2) nonresidential

developments on 5,000 square feet or larger, and (3) nonresidential demolition/renovations with more than 10,000 square feet of building recycle or reuse a minimum of 75 percent of concrete and asphalt and 50 percent of nonhazardous debris generated.

- PPP 15-2. 2008 Building and Energy Efficiency Standards (CCR Title 24):** Prior to the issuance of a building permit for residential, commercial, or office structures in the IBC, development plans for these structures shall be required to demonstrate that the project meets the 2008 Building and Energy Efficiency Standards. Commonly known as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2008 standards are approximately 15 percent more energy efficient than the 2005 Building and Energy Efficiency Standards. Plans submitted for building permits shall include written notes demonstrating compliance with the 2008 energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance of building permits. Design strategies to meet this standard may include maximizing solar orientation for daylighting and passive heating/cooling, installing appropriate shading devices and landscaping, utilizing natural ventilation, and installing cool roofs. Other techniques include installing insulation (high R value) and radiant heat barriers, low-e window glazing, or double-paned windows.
- PPP 15-3. Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential):** The California Public Utilities Commission adopted its Long-Term Energy Efficiency Strategic Plan on September 18, 2008, presenting a roadmap for all new residential and commercial construction to achieve a zero-net energy standard. This Plan outlines the goal of reaching zero net energy in residential construction by 2020 and in commercial construction by 2030. Achieving this goal will require increased stringency in each code cycle of California's Energy Code (Title 24).
- PDF 15-1. Alternate Transportation Incentives:** As described in the proposed zoning for the project, applicants for new developments in the IBC shall require that the construction contractor provide alternative transportation mode incentives such as bus passes and/or carpooling for workers to and from the worksite on days that construction activities require 200 or more workers. These requirements shall be noted on the grading plan cover sheet.
- PDF 15-2. Recycled Materials:** As described in the proposed zoning for the project, applicants for new developments in the IBC shall submit evidence to the satisfaction of the Director of Community Development or the Director of Public Works that the project uses recycled materials for at least 20 percent of construction materials. Recycled materials may include salvaged, reused, and recycled content materials. Recycled and/or salvaged building materials shall be shown on building plans and product cut sheets submitted to the City.
- PDF 15-10. Ultra-Low-Flow Fixtures:** Applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that toilets, urinals, sinks, showers, and other water fixtures installed on-site are ultra-low-flow water fixtures that exceed the Uniform Plumbing Code. Examples are: 1.28 average gallons per flush high efficiency

toilets, 2 gallon per minute (gpm) efficient bathroom faucets, 2.2 gpm efficient kitchen faucets, and 2.2 gpm efficient shower heads.

PDF 15-11. Landscaping and Irrigation Systems: Applicants for new developments in the IBC shall submit evidence to the satisfaction of the Director of Community Development that landscaping irrigation systems installed in the project are automated, high-efficient irrigation systems that reduce water use, such as an evapotranspiration “smart” weather-based irrigation controller, dual piping for recycled water, and bubbler irrigation; low-angle, low-flow spray heads; moisture sensors; and use of a California-friendly landscape palette. These features will make the project consistent with the intent of the California Water Conservation in Landscaping Act of 2006 (AB 1881), including provisions to reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of water.

PDF 15-12. Use of Reclaimed Water on All Master Landscaped Areas: If recycled water service is determined by Irvine Ranch Water District (IRWD) to be feasible (see PPP 14-1), applicants for new developments in the IBC shall use reclaimed water in all master landscaped areas. This will include master landscaped commercial, multifamily, common, roadways, and park areas. Master landscapes will also incorporate weather-based controllers and efficient irrigation system designs to reduce overwatering, combined with the application of a California-friendly landscape palette.

4.8 Hazards and Hazardous Materials

4.8.1 Summary of IBC EIR Findings

The certified IBC EIR identified no potentially significant hazards and hazardous material impacts.

- Project construction and/or operations would involve the transport, use, and/or disposal of hazardous materials. With compliance with identified PPPs, no significant impacts would occur.
 - IBC PPP 6-1. Removal of underground storage tanks in accordance with standards and regulations of OCHCA.
 - IBC PPP 6-2. Compliance with Title 8 of CCR Section 1532.1 for protection of construction workers exposed to lead.
 - IBC PPP 6-3. Preparation of a Fire Master Plan for submittal to OCFA.
 - IBC PPP 6-4. Lead-based paint assessment and removal requirements in compliance with Rule 29 of Code of Federal Regulations (CFR) Part 1926.
 - IBC PPP 6-5. ACM assessment and removal in compliance with applicable state and federal regulations.
 - IBC PPP 6-6. Hazardous waste management during site decommissioning and demolition in accordance with Title 22, Division 4.5 of the CCR.
 - IBC PPP 6-7. Limits and monitoring of construction worker exposure to asbestos in compliance with Title 8 of CCR, Section 1529.

- IBC PPP 6-8. Appropriate agency notification of evidence of soil and/or groundwater contamination encountered during site development (i.e., OCHCA, DTSC, or RWQCB).
- Various hazardous material sites are located within the IBC project area. Refer to PPP 6-1 through PPP 6-8 above.

As described in the Zoning Ordinance, PDF 6-2 requires discretionary applications for residential or residential mixed use to include a condition of approval for disclosure to residents clearly outlining the issues associated with living in a mixed-use environment. PDF 6-3 specifies project conditions of approval to mitigate any hazardous materials-related impacts during the removal of facilities, such as transformers or clarifiers, that would be demolished as part of a proposed development. As required by the Zoning Ordinance, PDF 6-4 requires applications for new residential and/or residential mixed-use development to be accompanied by data evaluating compatibility with surrounding uses with respect to noise, odors, truck traffic and deliveries, hazardous materials handling/storage, air emissions, and soil/groundwater contamination. PDF 6-5 requires submittal to the City of a health risk assessment for all residential projects located within 1,000 feet of an industrial facility that emits TACs.

- The IBC project site is in the vicinity of John Wayne Airport and within the jurisdiction of an airport land use plan. PDF 6-1 specifies, as described in the zoning related to building height limitations, that recordation of aviation easements, obstruction lighting and marking, and airport proximity disclosures and signage shall be provided per Orange County Airport Environs Land Use Plan standards for John Wayne Airport. PDF 6-2 requires discretionary applications for residential or residential mixed use to include a condition of approval for disclosure to residents clearly outlining the issues associated with living in a mixed-use environment.
- IBC project development would not affect the implementation of an emergency response or evacuation plan. Refer to PPP 6-1 through PPP 6-8 above.

4.8.2 Impacts of Proposed Project

As discussed in Chapter 3, *Environmental Setting*, a Phase I ESA performed for the proposed project site found no evidence of significant RECs related to the site.

Although the ESA did not identify any evidence of RECs, an environmental issue associated with the site was identified. The ESA determined that there is potential for ACM to be present in the window caulking and roofing materials. Potential impacts related to exposure of ACM would be reduced to less-than-significant levels with the incorporation of PPP 6-5 through PPP 6-7, below. Additionally, recommendations found in the ESA included the sampling of these materials to confirm their presence prior to any demolition activities. The ESA determined that lead-based paint is unlikely to be present onsite, but samples would need to be collected to determine whether that is the case; therefore, PPP 6-4 would still apply to the proposed project.

The project site is within Federal Aviation Regulations Part 77, "Imaginary Surfaces," associated with the John Wayne Airport, pursuant to the Airport Environs Land Use Plan (County of Orange 2008). An aviation easement for John Wayne Airport, covering approximately 18,500 acres around the airport, inclusive of the project site, restricts the construction of buildings and/or structures into air space above 203.68 feet above mean sea level. The existing elevation of the site is approximately 35 feet above mean sea level; the proposed project would be approximately 60 feet tall. Therefore, the proposed building would be well below the restricted air space and would not represent a

significant impact on aircraft safety nor represent a substantial change from the previous conclusions of the IBC EIR.

The project site is in a built-up and urban area and is not near wildlands and, thus, is not subject to wildfire hazards. Additionally, public roadways provide adequate emergency access to the site, and appropriate fire lanes, water supplies, and other fire prevention measures are included in the project to minimize impacts on emergency providers.

4.8.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of IBC PPPs 6-1 through 6-8 would minimize the potential for significant impacts related to hazardous materials that may be encountered during demolition and construction activities.

- PPP 6-1.** If any USTs are encountered during site grading and excavation activities, they shall be removed in accordance with the existing standards and regulations of, and oversight by, OCHCA, based on compliance authority granted through the CCR Title 23, Division 3, Chapter 16, Underground Tank Regulations. The process for UST removal is detailed in OCHCA's "Underground Storage Tanks: The Basics." Soil samples from areas where storage tanks have been removed or where soil contamination is suspected shall be analyzed for hydrocarbons including gasoline and diesel in accordance with procedures set forth by OCHCA. If hydrocarbons are identified in the soil, the appropriate response/remedial measures will be implemented as directed by OCHCA with support review from the RWQCB until all specified requirements are satisfied and a Tank Closure Letter is issued. Any aboveground storage tank in existence at the commencement of site development shall be removed in accordance with all applicable regulations under the oversight of OCFA. Compliance requirements relative to the removal/closure of storage tanks are set forth through the California Health and Safety Code, Sections 25280 through 25299.
- PPP 6-2.** During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the CCR Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.
- PPP 6-3.** Prior to approval of a conditional use permit, project applicants shall prepare a Fire Master Plan for submittal to OCFA consistent with OCFA Guideline B-09 (Fire Master Plans for Commercial and Residential Development).
- PPP 6-4.** Federal law requires compliance with Rule 29 of the CFR Part 1926. Prior to site demolition activities, building materials shall be carefully assessed for the presence of lead-based paint, and its removal, where necessary, must comply with state and federal regulations, including Occupational Safety and Health Administration 29 CFR Part 1926. The Occupational Safety and Health Administration rule establishes standards for occupational health and environmental controls for lead exposure. The standard also includes

requirements addressing exposure assessment, methods of compliance, respiratory protection, protective clothing and equipment, hygiene facilities and practices, medical surveillance, medical removal protection, employee information and training, signs, recordkeeping, and observation of monitoring. Furthermore, the requirements of CCR, Title 17, Division 1, Chapter 8, identify procedures that must be followed for accreditation, certification, and work practices for lead-based paint and lead hazards. Section 36100 thereof specifically sets forth requirements for lead-based paint abatement in public and residential buildings.

- PPP 6-5.** Prior to site demolition activities, building materials must be carefully assessed for the presence of ACM, and removal of this material, where necessary, must comply with state and federal regulations, including SCAQMD Rule 1403, which specifies work practices with the goal of minimizing asbestos emissions during building demolition and renovation activities, including the removal and associated disturbance of ACMs. The requirements for demolition and renovation activities include asbestos surveying; notification; ACM removal procedures and time schedules; ACM handling and cleanup procedures; and storage, disposal, and landfill disposal requirements for asbestos-containing waste materials.
- PPP 6-6.** During site decommissioning and demolition activities, hazardous wastes must be managed in accordance with the requirements of Title 22, Division 4.5 of the CCR. Title 22 sets forth the requirements with which hazardous-waste generators, transporters, and owners or operators of treatment, storage, or disposal facilities must comply. These regulations include the requirements for packaging, storage, labeling, reporting, and general management of hazardous waste prior to shipment. In addition, the regulations identify standards applicable to transporters of hazardous waste such as the requirements for transporting shipments of hazardous waste, manifesting, vehicle registration, and emergency accidental discharges during transportation.
- PPP 6-7.** During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the CCR, Section 1529, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practices by workers exposed to asbestos. Asbestos-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.
- PPP 6-8.** Evidence of soil and/or groundwater contamination (e.g., chemical odors, staining) unrelated to above/underground storage tank releases may be encountered during site development. The appropriate agency (e.g., OCHCA, DTSC, or the RWQCB) shall be notified if these conditions are encountered during construction or grading activities. With their oversight, an environmental site assessment would be completed and a determination shall be made as to whether a cleanup is required. Cleanup activities would be consistent with all applicable state and local rules, regulations, and laws. A cleanup would not be considered complete until confirmatory samples of soil and/or groundwater reveal levels of contamination below the standards established by the oversight agency. Alternatively, a risk assessment may be prepared for the site to determine that

there are no human or environmental risks associated with leaving contamination below specific levels in place. Construction in the impacted area shall not proceed until a “no further action” clearance letter or similar determination is issued by the oversight agency, or until a land use covenant is implemented.

PDF 6-1 As described in the proposed zoning for the project, building height limitations, recordation of aviation easements, obstruction lighting and marking, and airport proximity disclosures and signage shall be provided consistent with the Airport Environs Land Use Plan for John Wayne Airport.

4.9 Hydrology and Water Quality

4.9.1 Summary of IBC EIR Findings

The certified IBC EIR identified no potentially significant hydrology and water quality impacts.

- Development pursuant to the proposed project would not increase the amount of impervious surfaces on the site and would therefore not affect opportunities for groundwater recharge. With compliance with identified PPPs, no significant impacts would occur.
 - IBC PPP 7-1. Requires submittal by a professional civil engineer of a hydrology and hydraulic analysis of the entire site prior to issuance of precise grading permits.
 - IBC PPP 7-2. Requires submittal by a geotechnical engineer of a groundwater survey of the entire site prior to issuance of precise grading permits.
 - IBC PPP 7-3. Requires evidence of filing of a Notice of Intent (NOI) with the SWRCB, where a project results in soil disturbance of one or more acres of land that has not been addressed by an underlying subdivision map.
 - IBC PPP 7-4. Requires a project Final Water Quality Management Plan (WQMP) approved by the Director of Community Development prior to issuance of precise grading permits.
- Development pursuant to the proposed project would slightly alter the existing drainage pattern of the site, but would not result in erosion or siltation on or offsite.
- Development pursuant to the proposed project would not increase the amount of impervious surfaces on the site and would therefore not increase surface water flows into drainage systems within the watershed.
- Portions of the IBC project area are within a 100-year flood hazard area. Within the IBC, Lane Channel, Armstrong Channel, and Barranca Channel all fall within Zone A, which is identified as areas within the one-percent annual chance floodplain (100-year floodplain).
- Development pursuant to the proposed project would not violate any water quality standards or waste discharge requirements. Refer to IBC PPP 7-3.
- During the construction phase of the proposed project, there is the potential for short-term unquantifiable increases in pollutant concentrations from the site. After project development, the quality of stormwater runoff (e.g., sediment, nutrients, metals, pesticides, pathogens, and hydrocarbons) may be altered.

4.9.2 Impacts of Proposed Project

The proposed project would include paved areas throughout the site consisting of concrete walks, a pool, courtyard hardscape, and a tot lot area. Landscaped areas throughout the site would consist of grass, shrubs, and trees in planter areas and planter boxes. Proposed landscaped areas would be situated along Cartwright Road, in building setback areas, the project entryway, residential courtyards, and throughout parking areas. The proposed development would maintain the historic drainage pattern of the site and drain from the northwest to the southeast. Generally, the onsite stormwater runoff would be captured by localized catch basins and drain inlets, and flows would be diverted into high and low flows. The low flows and first-flush runoff would be routed first to treatment points with Modular Wetlands Systems (MWS) to treat the proposed runoff, and high flows would be routed to a larger underground storm drain that leads towards the site's drainage outfall. All flows would tie into an existing 24" reinforced concrete pipe along Cartwright Road.

The proposed project would slightly increase the impervious area onsite from 78 percent to 80 percent, as compared to the existing condition. The proposed development would maintain the historic drainage pattern of the site through the incorporation of structural features (roof drains, surface flow, curb and area drains) and retention/treatment features (MWS). The proposed storm drain system would not have an adverse effect on any of the existing or proposed improvements within the project site or adjacent public streets (Appendix G). Drainage improvements associated with the proposed project are subject to the design guidelines and capacities required by the City and OCFCD to control discharges to the existing runoff conditions to reduce any additional impacts (PPP 7-1). Impacts related to drainage would be less than significant and would not represent a substantial change from the previous conclusions.

Due to the soil type at the project site, historical shallow groundwater, and the location of the project in the Selenium Contamination Area, infiltration is considered infeasible for the project site (Appendix F). Therefore, redevelopment of the project site is not anticipated to reduce groundwater recharge opportunities as compared to existing conditions, and impacts are considered less than significant.

Onsite stormwater runoff would be captured by proposed onsite catch basins and drain inlets. The proposed project would include MWSs, a form of biotreatment Best Management Practices (BMPs). Biotreatment BMPs are a broad class of Low-Impact Development (LID) BMPs that reduce storm water volume to the maximum extent practicable, treat storm water using a suite of treatment mechanisms characteristic of biologically active systems, and discharge water to the downstream storm drain system or directly to receiving waters. Once the runoff is treated from the three onsite MWS, it would be discharged to the storm drain system.

The proposed project would not discharge directly into a receiving water body. However, as described in Chapter 3, *Environmental Setting*, the storm drain that receives water from the project site would drain to OCFCD Channel F08, San Diego Creek Reach 1, the Upper and Lower Newport Bay, and the Pacific Ocean. The Clean Water Act Section 303(d) impairments for these receiving waters include benthic communities effects, chlordane, chlorpyrifos, copper, diazinon, DDT, indicator bacteria, malathion, nutrients, PCBs, sedimentation/siltation, selenium, and toxaphene, and toxicity. Applicable Total Maximum Daily Loads include nutrients, toxics, and sediment (Appendix F). Pollutants of concern for the proposed project include suspended solid/sediment, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil/grease, toxic organic compounds, and trash/debris (Appendix F).

Under the municipal Orange County NPDES permit issued by the Santa Ana RWQCB, the City is required to ensure that discharges from its municipal storm drain systems do not cause or contribute to exceedances of receiving water quality standards (designated beneficial uses and water quality objectives) for surface waters or groundwater. In accordance with Irvine Standard Condition 2.13, the applicant is required to submit for approval a final WQMP prior to the issuance of precise grading permits. The WQMP has been submitted and approved for the proposed project. The WQMP identifies post-development drainage conditions and BMPs that would be used to minimize pollutants in runoff from the site after construction of the project (Appendix F).

Because the proposed project would disturb 1 acre or more of soil during construction, it is also subject to the requirements of the State General Construction Activity NPDES permit. Permit applicants are required to submit an NOI to the SWRCB, prepare a Stormwater Pollution Prevention Plan, and implement BMPs detailed in the Stormwater Pollution Prevention Plan to reduce construction effects on receiving water quality by implementing erosion control measures using the best available or best conventional control technology.

The IBC EIR reported that development of the IBC would result in changes in drainage patterns, rate and amount of surface water runoff, and substantial changes in absorption rates. The IBC projects would also alter drainage of storm waters and miscellaneous surface water runoff. However, the IBC EIR identified PPPs and PDFs that would reduce these potential impacts to below a level of significance. The proposed project would not result in a new significant environmental impact, nor a substantial increase in the severity of impacts from that described in the IBC EIR. Therefore, the proposed project would not require any changes to the IBC EIR related to surface hydrology, water quality, and groundwater.

4.9.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of IBC PPPs 7-1 through 7-4 would apply to the proposed project and would minimize the potential for significant impacts.

PPP 7-1. Prior to the issuance of precise grading permits, the applicant shall submit a hydrology and hydraulic analysis of the entire site. The analysis shall be prepared by a professional civil engineer versed in flood control analysis and shall include the following information and analysis:

- a. Hydrology/hydraulic analysis of 100-year surface water elevation at the project site to determine building elevation or flood proofing elevation.
- b. Analysis of existing and post-development peak 100-year storm flow rates, including mitigation measures to reduce peak flows to existing conditions.
- c. An analysis demonstrating that the volume of water ponded on the site and stored underground in the drainage system outside of the building envelope in the proposed condition is greater than or equal to the corresponding volume in the existing condition. The water surface used to determine the ponded volume shall be based on the water surface in the major flood control facility that the site is tributary to.

PPP 7-2. Prior to the issuance of precise grading permits, the applicant shall submit a groundwater survey of the entire site. The analysis shall be prepared by a

geotechnical engineer versed in groundwater analysis and shall include the following information and analysis (Irvine Standard Condition 2.7, as modified):

- a. Potential for perched groundwater intrusion into the shallow groundwater zone on buildout.
- b. Analysis for relief of groundwater buildup and properties of soil materials onsite.
- c. Affect of groundwater potential on building and structural foundations.
- d. Proposed mitigation to avoid potential for groundwater intrusion within 5 feet of the bottom of the footings.

PPP 7-3. This project will result in soil disturbance of one or more acres of land that has not been addressed by an underlying subdivision map. Prior to the issuance of preliminary or precise grading permits, the applicant shall provide the City Engineer with evidence that a NOI has been filed with the SWRCB. Such evidence shall consist of a copy of the NOI stamped by the SWRCB or the RWQCB, or a letter from either agency stating that the NOI has been filed (Irvine Standard Condition 2.12, as modified).

PPP 7-4. Prior to the issuance of precise grading permits, the applicant shall submit, and the Director of Community Development shall have approved, a project WQMP. The WQMP shall identify the best management practices that will be used on the site to control predictable pollutant runoff (Irvine Standard Condition 2.13, as modified).

4.10 Land Use and Planning

4.10.1 Summary of IBC EIR Findings

The certified IBC EIR identified the following land use and planning impacts as less than significant.

- The proposed project would not divide an established community. PDF 8-1 establishes Residential Mixed-Use Design Criteria to guide the physical development of any residential or mixed-use project with residential component within the IBC. PDF 8-2 requires submittal of land use compatibility data for new residential and/or residential mixed-use development.
- The proposed project could potentially be in conflict with an applicable adopted land use plan.

4.10.2 Impacts of Proposed Project

The project site is designated as Urban and Industrial in the Irvine General Plan and is zoned 5.1 IBC Multi-Use, per the Irvine Zoning Ordinance. The proposed project would be consistent with the existing community character, and would be an allowable use within the project area, subject to the granting of a CUP. The additional residential units provided at the project site would assist the City in improving the jobs/housing balance by replacing an unoccupied one-story office/light industrial building with 60 new affordable apartment units accommodating approximately 88 residents. Development of the proposed project would not conflict with any land use plan, policy, or regulation. Additionally, an HRA was performed for the project that examines the potential cancer

risk and chronic and acute chronic health effects from emissions in the area surrounding the proposed project (see Appendix C). As discussed in Section 4.3.2, health impacts would be below all SCAQMD health risk thresholds. Therefore, no significant health risk would occur from the combination of traffic on nearby roads and permitted facilities, and no mitigation is necessary. Therefore, the proposed project would not result in new significant impacts or require new mitigation measures that have not already been addressed in the IBC EIR.

4.10.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

PDF 8-1 To ensure a consistent standard of residential mixed-use design quality throughout the IBC, the City of Irvine has established a set of Residential Mixed-Use Design Criteria. These Design Criteria are intended to guide the physical development of any residential or mixed-use project that contains a component of residential use located within the boundaries of the IBC. This document establishes framework through which design continuity can be achieved while accommodating varying tastes, materials, and building methods. It provides standards and criteria for new construction and for remodels or additions.

PDF 8-2 As described in the proposed zoning code relating to compatibility with surrounding uses, the IBC mixed-use environment is an urbanized area, and land use compatibility issues are expected to occur. Therefore, applications for new residential and/or residential mixed-use development shall submit data, as determined by the Director of Community Development, for the City to evaluate compatibility with surrounding uses with respect to issues including, but not limited to: noise, odors, truck traffic and deliveries, hazardous materials handling/storage, air emissions, and soil/groundwater contamination. Compatibility with adjacent uses shall be determined through consistency with local, state, and federal regulations including but not limited to the City of Irvine Municipal Code, SCAQMD, OCFA, OCHCA, and/or the RWQCB.

4.11 Mineral Resources

4.11.1 Summary of IBC EIR Findings

The Initial Study in support of the IBC EIR concluded that there would be no impacts. There are no known mineral resources or mineral resource recovery sites within the IBC.

4.11.2 Impacts of Proposed Project

The project site is developed with office/light industrial land uses and lacks valuable or important mineral resources or mining operations. In accordance with the California Surface and Mining Reclamation Act of 1975, the California Department of Conservation, State Mining and Geology Board, has identified the site as being located in zone MRZ-1, indicating that no significant mineral deposits are present onsite (California Department of Conservation 2015). Therefore, the proposed project would not result in significant impacts or require new mitigation measures that have not already been addressed in the IBC EIR.

4.11.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

None required.

4.12 Noise

4.12.1 Summary of IBC EIR Findings

The certified IBC EIR identified the following significant and unavoidable noise impacts.

- Construction activities could result in temporary noise increases in the vicinity of the proposed project. IBC PPP 9-1, Control of Construction Hours, and PDF 9-2, specifying measures to separate noise sources and sensitive receptors during construction, were identified.
- Construction of the proposed project may generate perceptible levels of vibration at adjacent vibration-sensitive land uses. PDF 9-1 requires noise vibration analysis and vibration reduction measures for individual projects that involve vibration-intensive construction activities. Also refer to PPP 9-1 and PDF 9-2, above.
- Project-related vehicle trips would substantially increase ambient noise at noise-sensitive receptors in the vicinity of the project site on a segment of McGaw Avenue, and cumulatively on segments of Valencia Avenue (Newport Avenue to Red Hill Avenue), Warner Avenue (SR-55 to Red Hill Avenue), McGaw Avenue (Jamboree Road to Murphy Avenue), and Birch Street (Mesa Drive to Bristol Street southbound).
- Sensitive land uses could be exposed to noise levels that exceed 65 dBA CNEL from transportation or stationary sources. PPP 9-2 requires a final acoustical report demonstrating that development will be adequately sound attenuated with all mitigation measures incorporated. PDF-3 requires occupancy disclosure notices for units with patios and/or balconies that do not meet the 65 dBA CNEL limit.

The certified EIR found the following noise impacts to be less than significant:

- Stationary-source noise generated by land uses within the IBC would comply with the City of Irvine Municipal Code and would not substantially elevate the ambient noise environment.
- Noise-sensitive habitable rooms in structures within the 60 dBA CNEL noise contour of the John Wayne Airport would be exposed to substantial levels of airport-related noise. PDF-4 prohibits residential and active recreational areas in the 65 dBA CNEL of John Wayne Airport and requires preparation of an acoustical analysis identifying required building acoustical improvements for any project within the airport 65 dBA CNEL.

4.12.2 Impacts of Proposed Project

The project would generate short-term noise impacts from construction activities and would be affected by long-term noise impacts from vehicular traffic on surrounding roadways and operations at adjacent commercial and industrial properties (Appendix I). Each of these is discussed separately below.

Construction

Noise levels in the immediate vicinity of the project site would be temporarily elevated as a result of construction activities at the proposed project site and construction-related traffic. Based on the construction analysis included in the *Noise and Vibration Impact Analysis* (Appendix H), construction-related noise from the proposed project site could be as high as 73 dBA L_{eq} sound level at the nearby residential land uses (represented by receiver ST-2) located to the east of the project site and could be as high as 55 dBA L_{eq} at the hotel land use (to the northwest). Land uses along roadway segments could also see high single-event noise levels from construction equipment transport or truck traffic associated with the proposed project (passing pickup trucks at 50 feet would generate up to a maximum of 75 dBA).

The *Noise and Vibration Impact Analysis* for the proposed project found that construction-related impacts at the residential development east of the proposed project (represented by ST-2) would be exceed the existing noise level by approximately 13 dB. The IBC EIR found that construction-related impacts associated with construction of projects within the IBC project area would be significant and unavoidable. PPP 9-1 and PDFs 9-1 and 9-2, identified below, would minimize noise from construction activities, including vibration-intensive construction activities, to the extent feasible by requiring that activities be limited to the hours set forth in the Irvine Municipal Code and that stationary source equipment be placed as far as feasible from adjacent noise-sensitive land uses. However, because construction activities may occur near noise-sensitive land uses and could generate substantial noise levels for an extended period of time, impacts are considered significant and would be consistent with the IBC EIR.

The *Noise and Vibration Impact Analysis* for the proposed project found that construction-related groundborne vibration that could affect nearby structures or residents. Based on the construction equipment list provided by the applicant, the project would include the use of a vibratory roller which is listed with a reference vibration level of 0.21 peak particle velocity (PPV) at a distance of 25 feet from the source. Table 4.12-1 shows the vibration level at the closest sensitive receptor. As shown in the table, the predicted PPV is well below the 0.2 ppv FTA threshold (Table 4.12-1) for potential building damage.

The vibration velocity levels (L_v) at the nearest residential buildings were calculated to assess the potential for annoyance to people at those locations. The results are summarized in Appendix H. As shown in the table, the predicted L_v at the closest sensitive location would exceed the annoyance vibration threshold for occasional events. Although the vibration level exceeds the 80 VdB threshold, vibration levels of this magnitude would occur only when construction equipment is located at the edge of the project site (within 45 feet). Additionally, construction would occur during the daytime, when these residences would, under general circumstances, not likely be occupied and their residents would not likely be sleeping, which would minimize any impacts. It should be noted that, at the time of the preparation of this document, stay-at-home orders associated with the Covid-19 pandemic were in effect. As such, residences surrounding the project site may have been occupied. However, any vibration associated with construction activities would cease once construction was completed.

As discussed in the IBC EIR, vibration generated by construction equipment has the potential to be substantial for both vibration annoyance and structural damage if it occurs proximate to vibration-sensitive uses. As shown, the project would not result in vibration levels that would exceed the applicable criteria for structural damage, but would potentially exceed the criteria for human annoyance. As discussed, the IBC EIR includes PDF 9-1 (discussed in detail below), which requires

noise vibration analysis and vibration reduction measures for individual projects that involve vibration-intensive construction activities. Even with the inclusion of PDF 9-1, construction vibration levels could exceed the 78 VdB, resulting in significant impacts, which is consistent with the findings in the IBC EIR.

Table 4.12-1. Estimated Damage Related Construction Vibration Levels

Analysis Location	Applicable Criterion, PPV, in/s	Maximum Predicted PPV, in/s
Closest sensitive structure (commercial building) north of project site approximately 45 feet	0.2	0.09

Table 4.12-2. Estimated Annoyance Criteria and Impact Distances

Analysis Location	Applicable Criterion, L_v (VdB)	Maximum Predicted L_v (VdB)
Closest sensitive structure (residence) north of project site, on Mary Lane	80	83

Operation

Noise levels in the project area are primarily influenced by motor vehicle noise and range between 60 to 70 dBA CNEL within the IBC. According to the *Noise and Vibration Impact Analysis*, existing traffic noise levels at the project site are up to approximately 66 dBA CNEL.

Based on the *Noise and Vibration Impact Analysis*, Table 4.12-3 and Table 4.12-4, to follow, show noise levels for Existing, Short-Term Interim (2023), Long Range (2040), and Build-out (2040) scenarios, both with- and without-project. For all future scenarios (Opening Year, 2035, and post-2035) two alternatives were considered; the first was for conditions assuming development of related approved projects affecting the study area, the second was for conditions assuming development of all related pending projects. The project study area includes:

- Jamboree Road from the I-405 interchange to Main Street
- Main Street from Jamboree to MacArthur Boulevard
- Cartwright south of Main Street

Project-generated traffic noise increases within the project area would be no more than 0.1 decibel (dB) along local roadway segments for all scenarios (Existing, Short-Term Interim, Long Range, and Build-Out Post). For the same roadways analyzed in the IBC EIR (Main Street and Von Karman Avenue), the EIR analysis concluded that noise along these roadway segments would increase by 0.2 to 0.8 dB.

Based on the *Noise and Vibration Impact Analysis*, noise increases of this magnitude to offsite receptors would not be perceptible to the human ear when they occur gradually over a period of time. Therefore, impacts on offsite receptors would be less than significant, which is consistent with the finding in the IBC EIR.

Table 4.12-3. Estimated Approved Traffic Noise Levels

Roadway Segment	Estimated Traffic Noise Levels at 50 feet from Roadway Centerline (dB CNEL)											
	Existing	Existing + Project	Increase over Existing	Short-Term without Project	Short-Term with Project	Increase over Short-Term without Project	Long-Term without Project	Long-Term with Project	Increase over Long-Term without Project	Build-out without Project	Build-out with Project	Increase over Buildout without Project
Jamboree Road												
Main Street to I-405 NB Ramps	76.5	76.5	--	76.5	76.5	--	76.9	76.9	--	76.8	76.8	--
I-405 NB Ramps to I-405 SB Ramps	76.6	76.6	--	76.8	76.8	--	77.4	77.4	--	77.2	77.2	--
Main Street												
MacArthur to Gillette	71.7	71.8	0.1	72.0	72.1	0.1	72.1	72.1	--	71.9	71.9	--
Gillette to Von Karman	71.7	71.9	0.1	72.4	72.4	--	72.5	72.5	--	72.3	72.3	--
Von Karman to Cartwright	69.9	69.9	--	71.0	71.0	--	71.2	71.2	--	71.0	71.0	--
Cartwright to Jamboree	69.9	69.9	--	70.7	70.7	--	70.9	70.9	--	70.8	70.8	--
Cartwright Road												
South of Main	60.2	61.1	0.9	63.0	63.0	--	63.4	63.5	0.1	63.2	63.2	--

Table 4.12-4. Estimated Pending Traffic Noise Levels

Roadway Segment	Estimated Traffic Noise Levels at 50 feet from Roadway Centerline (dB CNEL)											
	Existing	Existing + Project	Increase over Existing	Short-Term without Project	Short-Term with Project	Increase over Short-Term without Project	Long-Term without Project	Long-Term with Project	Increase over Long-Term without Project	Build-out without Project	Build-out with Project	Increase over Buildout without Project
Jamboree Road												
Main Street to I-405 NB Ramps	76.5	76.5	--	76.5	76.5	--	76.9	76.9	--	76.9	76.9	--
I-405 NB Ramps to I-405 SB Ramps	76.6	76.6	--	76.8	76.8	--	77.4	77.4	--	77.3	77.3	--
Main Street												
MacArthur to Gillette	71.7	71.8	0.1	72.1	72.1	--	72.1	72.1	--	71.9	71.9	--
Gillette to Von Karman	71.7	71.9	0.1	72.3	72.3	--	72.5	72.5	--	72.3	72.3	--
Von Karman to Cartwright	69.9	69.9	--	70.9	70.9	--	71.2	71.2	--	71.1	71.1	--
Cartwright to Jamboree	69.9	69.9	--	70.6	70.6	--	70.9	71.0	0.1	70.8	70.8	--
Cartwright Road												
South of Main	60.2	61.1	0.9	63.1	63.0	-0.1	63.5	63.5	--	63.3	63.3	--

Based on the recent court case *California Building Industry Association v. Bay Area Air Quality Management District* (CBIA v. BAAQMD), CEQA no longer requires the consideration of the existing environment on the project itself. Nonetheless, the *Noise and Vibration Impact Analysis* included an assessment of noise levels at the proposed project site pursuant to the City of Irvine's exterior and interior noise standards. The analysis indicates that the closest proposed dwelling units would be exposed to traffic noise up to 66 dBA CNEL from Cartwright Road. Such noise levels would exceed the City's 65 dBA CNEL threshold for exterior living areas.

The only outdoor habitable spaces directly facing Cartwright Road would be balconies and decks. Per the Section 5-8-4, *Special Development Requirements*, of the Irvine Zoning Ordinance, residential developments within the IBC are required to provide occupancy disclosure notices to tenants of multifamily residences whose exterior uses (e.g., balconies) do not meet the 65 dBA CNEL criteria. Therefore, occupancy disclosures for residences with balconies and patios fronting Cartwright Road would be required pursuant to PDF 9-3, below. With such a disclosure, additional noise mitigation measures, such as noise barriers, are not required.

Residential buildings would provide more than 24 dB in exterior to interior noise attenuation with windows closed and 12 dBA or more with windows open. With exterior noise levels of up to 66 dBA CNEL (at the east side of the project site, adjacent to Cartwright Road), the proposed project would exceed the City's 45 dBA CNEL interior threshold with windows or doors open³. Therefore, forced air conditioning and sound-rated windows and doors would be required as part of PPP 9-2 to ensure noise impacts would be less than significant. Windows and doors at residential units adjacent to Cartwright Road and adjacent to the north boundary of the project site would require a minimum Sound Transmission Class (STC) rating of 24 to 28. The IBC EIR identifies impacts on sensitive land uses with exterior and interior components as potentially significant and less than significant, respectively. With the incorporation of site-specific measures identified in the *Noise and Vibration Impact Analysis* and included below under PPP 9-2, impacts on exterior land uses at onsite residences would remain significant, and would be consistent with the IBC EIR. Impacts would be less than significant for interior receptors.

The IBC EIR identifies requirements for noise-sensitive land uses within the 60 and 65 dBA CNEL contours from John Wayne Airport to meet specific performance criteria to mitigate exterior and interior noise impacts. The proposed onsite residential uses are located outside the 60 dBA CNEL contour. Because noise from aircraft activity would be below 60 dBA CNEL, no mitigation measures would be required for the proposed residential uses regarding the City's single-event aircraft noise exposure criterion, and the finding of a less-than-significant impact in the *Noise and Vibration Impact Analysis* is consistent with the IBC EIR.

Based on the *Noise and Vibration Impact Analysis*, noise-generating mechanical equipment at the project site would include up to 65 HVAC units located on the rooftop, which would generate noise when the equipment is in operation throughout the day. The rooftop where the HVAC systems would be located on the roof of the fourth floor (approximately 200 feet lateral distance to the nearest noise sensitive receptor). Based on the number of units and the manufacturer's specifications, noise levels generated by a single HVAC system would be approximately 43 dBA at 50 feet. At this reference noise level, the simultaneous operation of all 65 HVAC systems on the rooftop would generate a composite noise level of approximately 62 dBA at 50 feet. Given this composite noise level and the distance from the approximate center of the project building's balconies, the

³ 66 dBA – 12 dBA = 54 dBA

resulting noise level at this nearest receptor was estimated to be approximately 50 dBA L_{eq} . According to the threshold set by Irvine Municipal Code, noise levels exceeding 55 dBA L_{50} during daytime hours and 50 dBA L_{50} during the nighttime would cause an adverse impact. As noise from onsite HVAC systems would not exceed the City's exterior threshold outlined in the Irvine Municipal Code, noise impacts from HVAC systems would be less than significant.

Once the proposed project is operational, there would be no substantial sources of groundborne vibration at the project site. It is possible that site maintenance would occasionally require mechanized equipment, but such equipment would not include vibration-producing equipment more intensive than the construction equipment analyzed above. Therefore, no vibration impacts due to onsite project operations would occur.

Conclusion

The IBC EIR concluded that impacts from construction and operation of future development within the IBC would result in significant noise impacts. Implementation of IBC PPP 9-1, PDF 9-1, and PDF 9-2 for the proposed project would reduce impacts from construction noise, but impacts would remain significant and would be consistent with the IBC EIR as the residential units at the new development (specifically Metropolis, located east of the project site) are occupied. Additionally, implementation of IBC PPP 9-2 and PDF 9-3 for the proposed project would reduce impacts on future residents, but some exterior impacts would remain significant and would be consistent with the IBC EIR. The City adopted Findings that reduction below significant levels was not feasible and adopted a Statement of Overriding Considerations for these noise impacts. The *Noise and Vibration Impact Analysis* for the proposed project identified additional specific measures to minimize onsite noise impacts, which are included in PPP 9-2. With inclusion of these measures, the proposed project would not result in any new significant noise impacts, nor would there be a substantial increase in the severity of impacts from those described in the IBC EIR.

4.12.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of IBC PPPs 9-1 and 9-2 and PDFs 9-1 through 9-3 would apply to the proposed project, which would reduce impacts from construction noise and impacts on future residents.

PPP 9-1. Control of Construction Hours: Construction activities occurring as part of the project shall be subject to the limitations and requirements of Section 6-8-205(a) of the Irvine Municipal Code, which states that construction activities may occur between 7:00 a.m. and 7:00 p.m. Mondays through Fridays, and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles, and equipment that are making, or are involved with, material deliveries, loading, or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take impact on the community into consideration. No construction activity will be permitted outside of these hours except in emergencies including maintenance work on the City rights-of-way that might be required.

PPP 9-2. Acoustical Report: Prior to the issuance of building permits for each structure or tenant improvement other than a parking structure, the applicant shall submit a final acoustical report prepared to the satisfaction of the Director of Community Development. The report shall show that the development will be sound attenuated against present and projected noise levels, including roadway, aircraft, helicopter, and railroad, to meet City interior and exterior noise standards. The final acoustical report shall include all information required by the City's Acoustical Report Information Sheet (Form 42-48). In order to demonstrate that all mitigation measures have been incorporated into the project, the report shall be accompanied by a list identifying the sheet(s) of the building plans that include the approved mitigation measures (City of Irvine Standard Condition 3.5).

An acoustical report (Noise and Vibration Impact Analysis [Appendix H]) was prepared for the proposed project. The report identifies the specific measures that are required to minimize onsite noise. The Noise and Vibration Impact Analysis includes a number of important design assumptions that are potentially critical to remediating noise impacts; these assumptions are also reiterated below to ensure their inclusion as part of the final project design. The following measures are required:

- Mechanical ventilation equipment (e.g., an air-conditioning system) shall be provided to all dwelling units throughout the project.
- At residential units adjacent to Cartwright Road, windows and doors that are directly exposed to traffic on Cartwright Road shall have a minimum STC rating of 24 to 28.
- At residential units adjacent to the north boundary of the project site, north-facing windows and doors shall have a minimum STC rating of 24 to 28.
- Occupancy disclosure notices shall be provided to all future tenants in units with balconies/decks adjacent to Cartwright Road regarding potential noise impacts (consistent with PDF 9-3, below).

PDF 9-1. As described in the proposed zoning for the project, applicants for individual projects that involve vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, occurring near sensitive receptors shall submit a noise vibration analysis prior to their application being deemed complete by the City. If construction-related vibration is determined to exceed the Federal Transit Administration vibration-annoyance criteria of 78 vibration dB during the daytime, additional requirements, such as use of less vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver).

PDF 9-2. Prior to issuance of grading permits, the project applicant shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.

- Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturers' standards.

- Construction staging areas shall be located away from offsite sensitive uses during the later phases of project development.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, whenever feasible.
- Construction of sound walls that have been incorporated into the project design prior to construction of the building foundation; or installation of temporary sound blankets (fences typically composed of polyvinylchloride-coated outer shells with adsorbent inner insulation) placed along the boundary of the project site during construction activities.

PDF 9-3. As described in the proposed zoning for the project, prior to issuance of the certificate of occupancy, the project applicant shall submit evidence to the satisfaction of the Director of Community Development that occupancy disclosure notices for units with patios and/or balconies that do not meet the 65 dBA CNEL are provided to all future tenants pursuant to the City's Noise Ordinance.

4.13 Population and Housing

4.13.1 Summary of IBC EIR Findings

The certified EIR identified no potentially significant population and housing impacts.

- The proposed project would directly result in population and employment growth in the project area. IBC PPP 10-1 specifies compliance with City Housing Element policies to ensure the siting of new very low-, low-, and moderate-income housing units in future development projects.

4.13.2 Impacts of Proposed Project

The project site currently supports nonresidential office and light industrial associated infrastructure, which would be demolished under the proposed project and developed with 60 affordable apartment units. The proposed project is a part of the IBC Vision Plan and would contribute to the increased residential units within the City. The proposed project would add a total of 60 dwelling units, including 44 base units and 16 density bonus units. Base units are the number of housing units that a developer is allowed to build on a site. A density bonus is an increase in the overall number of housing units that a developer may build on a site in exchange for including more affordable housing units in the project. The addition of 60 dwelling units would help further the goal of meeting the housing demand in the City of Irvine, as defined by Southern California Associated Governments (SCAG) and the Housing Element of the Irvine General Plan. As such, the proposed project would add improvements to the City's job/housing balance through the conversion of office and light industrial uses to residential development. Therefore, the proposed project would not result in new significant impacts or require new mitigation measures that have not already been addressed in the IBC EIR.

4.13.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

- PPP 10-1** Compliance with the City's Housing Element policies, which provide a strategic blueprint to ensure the siting of new very low-, low-, and moderate-income housing units in future development projects to help the City continue to meet its state fair share housing requirements.

4.14 Public Services

4.14.1 Summary of IBC EIR Findings

The certified IBC EIR identified no potentially significant public services impacts.

Fire Protection and Emergency Services

- The proposed project would introduce new structures, residents, and workers within the OCFA service boundaries, thereby increasing the requirement for fire protection facilities and personnel. Development in the western region of the IBC would be outside the response time projection of the OCFA, and, therefore, a new station is required to service this area. The future station would be funded by a Secured Fire Protection Services Agreement required of all IBC projects to adequately meet the increase in the demand associated with the IBC Vision Plan.
- Future development projects in the IBC would be required to comply with existing plans, programs, or policies as they pertain to fire protection services. Every project applicant shall comply with all applicable OCFA codes, ordinances, and standard conditions regarding fire prevention and suppression measures relating to water improvement plans, fire hydrants, automatic fire extinguishing systems, fire access, access gates, combustible construction, water availability, and fire sprinkler systems (PPP 11-1). Prior to the issuance of the first grading permit for the individual developments within the IBC, the applicant shall have executed a Secured Fire Protection Agreement with OCFA (PPP 11-2). Prior to the issuance of the first building permit, all fire protection access easements shall be approved by OCFA and irrevocably dedicated in perpetuity to the City (PPP-11-3).

Police Protection

- The proposed project would introduce new structures, residents, and workers into the Irvine Police Department service boundaries, thereby increasing the requirement for police protection facilities and personnel. Based on the potential for a substantial increase in the number of residential units (including pending units, potential new units, and potential density bonus units) beyond what currently exists in the IBC, an additional 10 police officers and four non-sworn support personnel would be required. Because of density bonus units, which grant reductions for parking requirements, the IBC may require parking enforcement personnel employed by the Irvine Police Department. Additional personnel and associated equipment would be provided through the continued implementation of the City's Strategic Business Plan and annual budget review process. Police Department needs are assessed and budget allocations are revised accordingly to ensure that adequate levels of service are maintained throughout the city. With implementation of existing City plans, programs, and policies

requiring compliance with the Uniform Security Code, and project design features pertaining to provisions of security features, the impacts of the proposed project related to law enforcement were determined to be less than significant. Project applicants would be required to comply with all applicable requirements of the Irvine Uniform Security Code (Municipal Code Title 5, Division 9, Chapter 5) (PPP 11-5). In addition, projects would be required to utilize the concepts of Crime Prevention through Environmental Design in the design and layout of any project to reduce criminal opportunity and calls for service, as specified in Zoning Ordinance (PDF 11-2).

School Services

- Future development pursuant to the IBC Vision Plan would increase the number of K–12 students in the IUSD portion of the IBC, creating the need for expanded and/or additional facilities and services, as well as the potential for school district boundary changes. Construction of these facilities and development of these services would be offset through a school impact fee assessment. Pursuant to Government Code Section 65995, the individual applicants with projects within IUSD shall pay developer fees to IUSD at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts. Alternatively, the applicant may enter into a school finance agreement with IUSD to address mitigation for school impacts in lieu of payment of developer fees. The agreement shall establish financing mechanisms for funding facilities to serve the students from the project. If the applicant and IUSD do not reach a mutually satisfying agreement, then project impacts would be subject to developer fees (PPP 11-6).

Library Services

- The proposed project would generate additional residents in the IBC, increasing the service needs for the local libraries. Future development pursuant to the IBC Vision Plan would not in and of itself result in the need for a new library facility. Should a library impact fee be enacted, established, and in force at the time of development, the individual applicants would be required to pay a library impact fee (PDF-11-3).

4.14.2 Impacts of Proposed Project

Fire protection services for the proposed project would be provided by OCFA, and police services would be provided by the Irvine Police Department. The proposed project would increase the demand on OCFA and the Irvine Police Department to respond to emergencies at the site. Multifamily residential land uses generate significantly more demand on fire and police resources than the typical industrial and office land uses found in the IBC. The design of IBC residential complexes would exacerbate response times because of the multi-level construction.

The proposed project would increase the demand for school facilities in IUSD through the creation of new housing. The proposed project would be served by nearby schools Culverdale Elementary School (K–6), Westpark Elementary School (K–6), South Lake Middle School (7–8), and University High School (9–12). Enrollment and capacity data for the 2019/2020 school year are shown in Chapter 3, *Environmental Setting*, and suggest that none of the schools are currently over capacity.

Based on the IUSD IBC high-density student generation rates, the proposed project would generate a total of six students. As shown in Table 4.14-1 below, of the six students generated by the proposed project, four would be elementary school students, one would be an intermediate school student, and one would be high school student (Ramirez Pers. Comm). The student generation from the

proposed project would not exceed enrollment capacity and would not require additional school services.

Table 4.14-1. Estimated Student Generation for the Proposed Project

School Level	IUSD IBC High Density Generation Rate (student per dwelling unit) ¹	New Students ¹
Elementary School	0.06	4
Intermediate School	0.01	1
High School	0.02	1
Total	--	6

Notes:

¹ Figures listed in the New Students column were rounded up to the nearest whole number.

Source: Ramirez Pers. Comm.

The IBC EIR found that the need for additional school services is met through compliance with the school impact fee assessment discussed below. Based on the available seats in receiving schools, the proposed project would not exceed the amount of capacity available or affect a currently over-capacity school. Therefore, the proposed project would not create any significant impacts not previously addressed in the IBC EIR.

Impacts on school facilities and the mitigation thereof is addressed by SB 50, enacted in 1998 (Chapter 407 of Statutes of 1998) adopting in part and amending in part Education Code Section 17620 et seq. and Government Code Section 65995 et seq. By enacting SB 50, the State Legislature occupied and preempted the subject matter of school facility finance and funding requirements with respect to development projects (Government Code Section 65995(e)). SB 50 provides the exclusive methods for considering and mitigating impacts on school facilities resulting from development land use entitlement approvals (Government Code Section 65996(a)) and further provides that the payment or satisfaction of the fee, charge, dedication, or other requirement imposed by a school district pursuant to the authority granted in Education Code Section 17620 is deemed to be full and complete mitigation of the project impacts on school facilities (Government Code Sections 65995(f) and 65996(h)). Furthermore, because compliance with SB 50 is deemed to be full and complete mitigation, a lead agency may not deny or refuse to approve land use entitlements for a development project on the basis that school facilities are inadequate. Among other things, SB 50 limits the amount of fees that can be imposed on development projects.

Implementation of the proposed project would require compliance with existing plans, programs, and policies as they pertain to fire and police protection services, as well as school facilities. The proposed project would not result in new significant public services impacts, nor would there be a substantial increase in the severity of impacts from those described in the IBC EIR.

4.14.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Adherence to PPP 11-1 through PPP 11-3 would minimize the potential for impacts on fire protection services; adherence to PPP 11-5 and PDF 11-2 would minimize impacts on police services; and payment of school impact fees pursuant to PPP 11-6 and library fees pursuant to PDF 11-3 would reduce impacts on schools and public libraries.

- PPP 11-1.** Every project applicant shall comply with all applicable OCFA codes, ordinances, and standard conditions regarding fire prevention and suppression measures relating to water improvement plans, fire hydrants, automatic fire extinguishing systems, fire access, access gates, combustible construction, water availability, and fire sprinkler systems.
- PPP 11-2.** Prior to the issuance of the first grading permit for the individual development within the IBC, the applicant shall have executed a Secured Fire Protection Agreement with the OCFA.
- PPP-11-3.** Prior to the issuance of the first building permit, all fire protection access easements shall be approved by the OCFA and irrevocably dedicated in perpetuity to the City.
- PPP 11-5.** The project applicant shall comply with all applicable requirements of the City of Irvine Uniform Security Code (Municipal Code Title 5, Division 9, Chapter 5).
- PPP 11-6.** Pursuant to Government Code Section 65995, the individual applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts. Alternatively, the applicant may enter into a school finance agreement with the school district(s) to address mitigation to school impacts in lieu of payment of developer fees. The agreement shall establish financing mechanisms for funding facilities to serve the students from the project. If the applicant and the affected school district(s) do not reach a mutually satisfying agreement, then project impacts would be subject to developer fees.
- PDF 11-2.** Utilize the concepts of Crime Prevention through Environmental Design in the design and layout of any project to reduce criminal opportunity and calls for service, as specified in the proposed zoning code.
- PDF 11-3.** In the event that a Citywide library impact fee is adopted and in force, each developer shall pay this fee prior to issuance of building permits for new development.

4.15 Recreation

4.15.1 Summary of IBC EIR Findings

The certified IBC EIR identified no potentially significant recreation impacts.

- There are no community parks within the IBC and, per Section 5-5-1004 of the Irvine Municipal Code, the public and/or private distribution of neighborhood park land will be left to the discretion of the Planning Commission on the recommendation of the Community Services Commission during the approval of a proposed project's Park Plan.
- The City is currently seeking adequate sites within the IBC for construction of a public community park. Funds from the general IBC community park account would be used for purchase of the site and construction of the park. However, because there is insufficient available land in the IBC for a community park, the City is investigating opportunities adjacent to

the IBC, where more land may be available and convenient to IBC residents. Additionally, the City is investigating opportunities for linear parks within the IBC.

- At project buildout, the IBC project would generate approximately 9,858 additional residents, which would increase the use of existing park and recreation facilities. IBC PPP 12-1 requires payment of park fees prior to issuance of any residential building permits. In addition, IBC PPP 12-2 requires an irrevocable offer of dedication for nonexclusive easements for public use trails as identified in the City's General Plan.

4.15.2 Impacts of Proposed Project

The project site is developed, and there are no existing public or private recreational amenities on the site. The proposed project would introduce a new residential complex to the area, increasing the use of existing parks and recreational facilities, and thereby increasing the demand for parks and recreational facilities of various types.

The City has adopted Park Dedication Requirements for Affordable Rate Residences, which require the dedication of 2 acres of neighborhood park land and 1.5 acres of community park land per 1,000 residents. The proposed project would meet these requirements through a combination of dedication of private park land and payment of in-lieu fees. As discussed in Chapter 2, *Project Description*, the proposed project is required to provide 0.176 acre of neighborhood park land and 0.132 acre of community park land.

The neighborhood park credit requirement would be met by providing 0.18 acre of neighborhood parkland onsite. The community park credit requirement would be met by the payment of an in-lieu fee, totaling \$528,000. This amount equals 0.132 acre based on the fair market land value of \$4,000,000 per acre established in the most recent IBC parkland appraisal (Gary Vogt and Associates 2019). The draft Park Plan is included in Appendix B.

The proposed project would provide approximately 0.18 acre of onsite private neighborhood recreation space and improve this land with a pool, multi-purpose room with kitchen, fitness center, restrooms, tot lot, synthetic turf area, barbecues and seating areas with tables, and shade structures.

4.15.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

- PPP 12-1.** All park fees shall be paid directly to the City cashier prior to issuance of any residential building permits for the building site or sites from which fees are to be derived. These fees are to be used only for the purpose of developing new or rehabilitating existing park or recreational facilities to serve the subdivision (Section 5-5-1004.E.2 of the Irvine Municipal Code).

4.16 Transportation/Traffic

4.16.1 Summary of IBC EIR Findings

The certified IBC EIR identified the following transportation and traffic impacts as significant and unavoidable with IBC PPPs, PDFs, and MMs included:

- Buildout of the IBC pursuant to the proposed project would generate additional traffic volumes and affect levels of service for the existing area roadway system.
 - PPP 13-1. Development Fee Program
 - PDF 13-1. Transportation Management Association
 - MM 13-1. AB 1600 Nexus Study, including intersection improvements in the cities of Costa Mesa, Irvine, Newport Beach, Santa Ana, and Tustin
 - MM 13-2. Update the IBC Development Fee Program (PPP 13-1) pursuant to the AB 1600 Nexus Study (MM 13-1)
 - MM 13-3. Update the IBC Land Use and Trip Monitoring Data base (IBC Database) to reflect land use changes associated with IBC project

The certified IBC EIR identified the following transportation and traffic impacts as less than significant:

- The proposed project would not increase hazards caused by a design feature or incompatible uses.
- Adequate parking would be provided for the proposed project.
- The proposed project complies with adopted policies, plans, and programs for alternative transportation.

4.16.2 Impacts of Proposed Project

SB 743, approved in 2013 and codified in Public Resources Code Section 21099, changes the way transportation impacts are determined according to CEQA. The Office of Planning and Research (OPR) recommended the use of vehicle miles traveled (VMT) as the replacement for automobile delay-based level of service (LOS) for the purposes of determining a significant transportation impact under CEQA. On December 28, 2018, the State approved updates to the State CEQA Guidelines, which entailed changes to the thresholds of significance for the evaluation of impacts to transportation. Updates to the State CEQA Guidelines included the addition of CEQA Guidelines Section 15064.3, of which Subdivision (b) establishes criteria for evaluating a project's transportation impacts based on project type and using automobile VMT as the metric. Beginning July 1, 2020, the provisions of CEQA Guidelines Section 15064.3 apply statewide. As identified in Section 15064.3(b)(4) of the CEQA Guidelines, a lead agency has the discretion to choose the most appropriate methodology to evaluate a project's VMT.

On June 23, 2020, the City of Irvine adopted the comprehensive update to the CEQA Manual, including the VMT Impact Analysis Guidelines and related Traffic Study Guidelines. As outlined in the updated Traffic Study Guidelines, the City will continue to use methodology evaluating the need for traffic improvements based on LOS to address automobile delay. In addition, VMT Impact

Analysis Guidelines are also included in the updated Traffic Study Guidelines. This analysis considers both LOS and VMT impacts.

Based on the results of the *Traffic Study* prepared by LSA in December 2020 (Appendix I), the proposed project can be implemented without affecting the LOS of the surrounding roadway system. The evaluation of the study area intersection and roadway segment LOS with the development of 60 residential units onsite shows that the addition of project traffic to the Existing, Short-Term Interim-Year, Long-Range, and Build-out conditions would not create any adverse LOS impacts according to the City's performance criteria. This analysis focused on the consistency of the proposed project with programs, plans, ordinance, and policies that address the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

As a result of the final rulemaking surrounding SB 743, a VMT analysis has been prepared in accordance with the Traffic Study Guidelines. Based on these guidelines, affordable housing projects are presumed to have a less-than-significant transportation impact and therefore do not require a VMT analysis. Therefore, the proposed project meets the requirements of the Traffic Study Guidelines regarding VMT, and it would not create a significant CEQA impact.

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The assessment of the project's consistency with programs, plans, ordinances, and policies addressing the roadway system takes into consideration the estimated trip generation from the proposed project compared to the existing baseline condition. The project site is subject to the Zoning Ordinance restrictions detailed in Section 9-36-8, *Land Use Development Intensity Value Database* (City of Irvine 2016). Per the Zoning Ordinance, the IBC development intensity value (DIV) budget for the project site (containing 19,061 square feet of office use and 1,953 sf of zoning potential) is 28 AM peak-hour (7:00–8:30 a.m.) DIVs, 29 PM peak-hour (4:45–6:15 p.m.) DIVs, and 293 average daily trip (ADT) DIVs. Density bonus units do not generate DIVs. The proposed project of 44 base units (excluding the 16 density bonus units) would generate 22 AM peak-hour DIVs, 23 PM peak-hour DIVs, and 277 ADT DIVs (see Table 4.16-1 below). Because the proposed project is within the existing DIV budget for the site, a transfer of development rights (TDR) is not required.

These DIV rates are used to determine both the maximum allowable development intensity for the site as well as the DIVs generated by the proposed project; however, these rates are not used for impact analysis purposes. Instead, traffic impacts are based on the proposed land use of the proposed project with forecasts from the latest version of the Irvine Transportation Analysis Model (ITAM).

Table 4.16-1. 17861 Cartwright Road DIV Summary

Land Use	Size	Unit	Daily	AM Peak Hour	PM Peak Hour
DIV Rates ¹					
Office/Zoning Potential		SF	0.01377	0.00130	0.00138
Residential		DU	6.30000	0.50000	0.52000
Existing DIV Budget (Project No. 106)					
Office	19,061	SF	262.47	24.78	26.30
Zoning Potential	1,953	SF	26.89	2.54	2.70
DIV Budget Differential			4	1	0
Total			293	28	29
Project DIV Generation					
Residential	60	DU	378.00	30.00	31.20
Density Bonus (35% of 44 DU)	(16)	DU	(100.80)	(8.00)	(8.32)
Total (excluding Density Bonus)			277.20	22.00	22.88
Difference (Existing – Project)			15.80	6.00	6.12
Remaining Entitlement (Office Equivalency)			1,147	4,615	4,435

¹ DIV rates obtained from the IBC Database Summary.

DU = dwelling unit

SF = square feet

The proposed project is forecast to generate an average daily traffic volume of 326 trips, including 22 trips (six inbound and 16 outbound) in the AM peak hours and 26 trips (16 inbound and 10 outbound) in the PM peak hours, based on ITE trip rates (see Table 4.16-2 below).

Table 4.16-2. Project Trip Generation

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates ¹									
Multifamily (Mid-Rise)		DU	5.44	0.09	0.27	0.36	0.27	0.17	0.44
Project Trip Generation									
Multifamily (Mid-Rise)	60	DU	326	6	16	22	16	10	26

¹ Trip rates are referenced from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition (2017) Land Use Code (221): Multifamily Housing (Mid-Rise) – Between 3 and 10 Levels.

ADT = average daily trips

DU = dwelling unit

Roadways and Intersections

With respect to programs, plans, and ordinances relative to the circulation system, the following objective from the Irvine General Plan Circulation Element (City of Irvine 2015c) is applicable to the proposed project:

- Objective B-1: Roadway Development. Plan, provide and maintain an integrated vehicular circulation system to accommodate projected local and regional needs.

Policy (c) under this objective establishes LOS standards that “shall be the goal applied to arterial highways, ... which are in the City of Irvine or its sphere of influence, and which are under the City’s

jurisdiction.” Under the existing (no project) condition, all study area intersections currently operate at satisfactory LOS. With the addition of the proposed project in the existing setting, all study area intersections would continue to operate at satisfactory LOS. A summary of existing (Baseline and Plus Project) intersection LOS is presented in Table C: Existing Intersection LOS Summary, from Appendix I. Therefore, the proposed project would not result in any peak-hour LOS impacts at signalized intersections.

According to the City’s Traffic Study Guidelines and consistent with the City’s General Plan, LOS at an intersection or roadway is considered to be unsatisfactory when the intersection capacity utilization (ICU) exceeds 1.00 (i.e., LOS F) within the IBC. Roadway link v/c ratios are determined using the City’s theoretical daily capacities. Using the City’s adopted methodologies (ICU for signalized intersections and v/c ratios for roadway links), a project LOS impact occurs if the project causes a signalized intersection or roadway link to exceed the acceptable LOS or when the signalized intersection or roadway link in question exceeds the acceptable LOS and the impact of development is greater than or equal to 0.02.

Existing (Baseline and Plus Project) ADT volumes and volume-to-capacity (v/c) ratios are presented in Table D: Existing ADT Volumes and A/C Ratios, from Appendix I. As this table indicates, all study area roadway segments currently operate at satisfactory LOS, with the exception of Jamboree Road between Main Street and the I-405 northbound ramps (LOS F) and Jamboree Road between the I-405 northbound ramps and I-405 southbound ramps (LOS F). With the addition of the proposed project in the existing setting, all study area roadway segments would continue to operate at satisfactory LOS, with the exception of the previously stated roadway segments. However, the roadway segment v/c ratios do not increase by 0.02 or greater at these locations. Therefore, with the addition of the proposed project in the existing setting, no daily LOS impacts would occur on roadway segments.

Table 4.16-3. Existing Intersection LOS Summary

Study Area No.	ITAM Node No.	Intersection	Baseline				Plus Project				Peak-Hour Δ ICU		LOS Impact?
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM	
			ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS			
1	78	MacArthur Boulevard/Main Street	0.58	A	0.78	C	0.60	A	0.78	C	0.02	0.00	No
2	70	Gillette Avenue/Main Street	0.32	A	0.65	B	0.36	A	0.65	B	0.04	0.00	No
3	100	Von Karman Avenue/Main Street	0.67	B	0.70	B	0.72	C	0.70	B	0.05	0.00	No
4	116	Cartwright Road/Main Street	0.36	A	0.55	A	0.35	A	0.55	A	(0.01)	0.00	No
5	141	Jamboree Road/Main Street	0.76	C	0.87	D	0.76	C	0.86	D	0.00	(0.01)	No
6	143	Jamboree Road/I-405 northbound ramps	0.73	C	0.85	D	0.73	C	0.85	D	0.00	0.00	No
		HCM	24.6	C	30.4	C	24.6	C	30.7	C	-	-	N/A
7	144	Jamboree Road/I-405 southbound ramps	0.95	E	0.94	E	0.95	E	0.94	E	0.00	0.00	No
		HCM	>80.0	F	46.1	D	>80.0	F	46.2	D	-	-	N/A

Δ = change

Delay is reported in seconds.

HCM = Highway Capacity Manual

ICU = Intersection Capacity Utilization

I-405 = Interstate 405

ITAM = Irvine Transportation Analysis Model

LOS = level of service

N/A = not applicable

Table 4.16-4. Existing ADT Volumes and V/C Ratios

ITAM Post No.	Roadway	Segment	Capacity	Baseline			Plus Project			Δ V/C	LOS Impact?
				ADT	V/C	LOS	ADT	V/C	LOS		
145	Jamboree Road	Main Street to I-405 NB Ramps	72,000	74,700	1.04	F	74,700	1.04	F	0.00	No
956	Jamboree Road	I-405 NB Ramps to I-405 SB Ramps	72,000	76,300	1.06	F	76,300	1.06	F	0.00	No
820	Main Street	MacArthur to Gillette	54,000	33,800	0.63	B	34,600	0.64	B	0.01	No
821	Main Street	Gillette to Von Karman	54,000	33,800	0.63	B	35,400	0.66	B	0.03	No
822	Main Street	Von Karman to Cartwright	54,000	22,300	0.41	A	22,300	0.41	A	0.00	No
823	Main Street	Cartwright to Jamboree	54,000	22,300	0.41	A	22,400	0.41	A	0.00	No
1428	Cartwright Road	south of Main	13,000	3,200	0.25	A	3,900	0.30	A	0.05	No

 Δ = change

B = exceeds City's level of service criteria

ADT = average daily trips

I-405 = Interstate 405

ITAM = Irvine Transportation Analysis Model

LOS = level of service B

V/C = volume-to-capacity ratio

Pedestrian and Bicycle Facilities

Objective B-3 of the City's General Plan Circulation Element is "to establish a pedestrian circulation system to support and encourage walking as a mode of transportation (City of Irvine 2015c)." The following objectives are applicable to the proposed project:

1. Link residences with schools, shopping centers, and other public facilities, both within a planning area and to adjacent planning areas, through an internal system of trails.
2. Require development to provide safe, convenient, and direct pedestrian access to surrounding land uses and transit stops. Issues such as anticipated interaction between pedestrians and vehicles, proposed infrastructure improvements, and design standards shall be considered.
3. Design and locate land uses to encourage access to them by nonautomotive means.

In support of Objective B-3, the proposed project incorporates a continuous system of sidewalks within the project site. The pedestrian amenities within the site and at its adjacencies have been designed to comply with the City's objective. Safe access to the public street system (via Cartwright Road) will be provided. Sidewalks are currently provided on both sides of Cartwright Road. Where modes intersect (i.e., streets and sidewalks), accessible ramps will be incorporated. Land uses within close proximity to the project site include other office and industrial uses, employment centers, and residential uses, all of which are accessible by nonautomotive means.

The City's General Plan includes a list of goals and objectives for bicycle planning. As stated in the General Plan, the bicycle circulation objective is: "To plan, provide and maintain a comprehensive bicycle trail network that, together with the regional trail system, encourages increased use of bicycle trails for commuters and recreational purposes." Main Street currently provides an on-street (Class II) bike lane. Alton Parkway, Jamboree Road, and Von Karman Avenue (located north, east, and west of the project site) also provide on-street bike lanes. An on-street bike lane along McGaw Avenue (between Red Hill Avenue and the San Diego Creek) and a trail along the Barranca Channel (between Gillette Avenue and Alton Parkway) are proposed north of the project site (City of Irvine 2015c). Bicycle travel can occur along these routes to employment, shopping, or recreational destinations. There are no designated bike lanes on Cartwright Road, as this is a local roadway. However, bicycle travel can occur along this roadway. In addition, the project will provide 38 bicycle storage spaces inside the ground floor of the building, adjacent to the leasing office, as well as two bicycle racks (accommodating four bicycles in total) to the right of the surface parking space designated for the United States Postal Service.

Transit

Transit facilities will be accessible to and from the project site. This is an important feature, as Orange County Transportation Authority (OCTA) stops are provided at the northwest and southeast corners of Cartwright Road/Main Street (Routes 53 and 86). OCTA Route 53 provides transportation to and from the Anaheim Regional Transportation Intermodal Center and Irvine via Main Street. OCTA Route 86 provides transportation to and from Costa Mesa and Mission Viejo via Main Street, Alton Parkway, and Jeronimo Road.

Irvine Shuttle (iShuttle) stops are also provided at the northeast corner of Von Karman Avenue/Main Street (Route 400A) and the northeast corner of Jamboree Road/Main Street (Route 400B). iShuttle Route 400A provides transportation to and from the Tustin Metrolink Station and

John Wayne Airport via Von Karman Avenue. iShuttle Route 400B provides transportation to and from the Tustin Metrolink Station and John Wayne Airport via Jamboree Road.

The transit amenities described in combination with the network of pedestrian facilities and bikeways adjacent to the project site, as discussed above, provide alternative means of transportation for residents at the project site. Therefore, the proposed project would not conflict with an applicable program, plan, ordinance, or policy addressing the circulation system, including transit.

The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, and no impacts are expected.

Vehicle Miles Traveled Analysis

As a result of the final rulemaking surrounding SB 743 and the implementation deadline of July 1, 2020, a VMT analysis has been prepared in accordance with the City's adopted Traffic Study Guidelines. Based on the City's guidelines, affordable housing projects are screened out from a VMT analysis and are presumed to have a less than significant transportation impact. Therefore, the proposed project meets the requirements of the City's Traffic Study Guidelines regarding VMT, and the project does not create a significant CEQA impact.

Site Access and Transit Facilities

A site access analysis, consistent with the City's Transportation Design Procedures (TDPs), was conducted as part of the *Traffic Study*. As a result, no impacts on vehicle access were identified with regard to the following TDPs:

- TDP-1: Turn-Lane Pocket Lengths
- TDP-3: Left-Turn In/Out Access
- TDP-4: Right-Turn Lanes At Uncontrolled Driveways
- TDP-10: Distance Between Driveways And Intersections
- TDP-15: Gate Stacking

The project would not meet the requirements of TDP-14 (Driveway Lengths). However, a request for deviation from TDP-14 (provided in Appendix I) has been prepared for review and approved by the City. This deviation would not result in an unsafe condition or inadequate access to the project site. The project incorporates design features to accommodate pedestrian circulation onsite. Pedestrian traffic is afforded safe travel via paths and sidewalks that connect to the public street system. Transit facilities are accessible to and from the project site with OCTA and iShuttle bus stops along Main Street. In the vicinity of the project site, bicycle travel can occur in the on-street (Class II) bike lanes along Main Street. Therefore, there would be no substantial increase in hazards due to a geometric design feature or incompatible uses and no significant impact would result.

Emergency Vehicle Access

The existing and proposed roadway system would provide adequate emergency access to the Project site, and would not affect offsite emergency access. The proposed circulation system and site access for the Project site is included in the Fire Master Plan (Appendix J). The proposed project has been reviewed by the OCFA, which did not identify any conflicts with the OCFA requirements

relative to emergency vehicle access. Therefore, no significant impacts related to emergency access would result.

Based on the result of this analysis, the proposed project can be implemented without affecting the design or operation of the surrounding roadway system. An evaluation of intersection LOS shows that the addition of project traffic to the existing, short-term interim-year, long-range, and buildout approved and pending traffic volumes would not significantly affect the LOS of the study area intersections or roadways, according to the City performance criteria. The project incorporates design features to accommodate pedestrian circulation and bicycle travel onsite. Based on the City's Traffic Study Guidelines (adopted on June 23, 2020), affordable housing projects are screened out from a VMT analysis and presumed to have a less-than-significant transportation impact. Therefore, the project meets the requirements of the City's Traffic Study Guidelines regarding VMT, and the project does not create a significant impact.

4.16.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of PPP 13-1 would apply to the proposed project and would minimize the potential for impacts on traffic and circulation.

PPP 13-1. IBC Development Fee Program: A Development Fee Program was established to fund area-wide circulation improvements within the IBC area. The improvements are required due to potential circulation impacts associated with buildout of the IBC area. Fees are assessed when there is new construction or when there is an increase in square footage within an existing building or the conversion of existing square footage to a more intensive use. The development fees collected are used strictly for circulation improvements right-of-way acquisition and transportation monitoring measures in the IBC area. Fees are calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. The IBC Fees are included with any other applicable fees payable at the time the building permit is issued.

4.17 Utilities and Service Systems

4.17.1 Summary of IBC EIR Findings

The certified IBC EIR identified no potentially significant utilities and service system impacts.

Water Supply and Delivery

- Final buildout of the IBC would result in an increase in water demand of approximately 3,451 acre-feet per year. There is sufficient supply capacity for both potable and nonpotable water to accommodate full buildout through 2028, on completion of underdevelopment supplies.
- Future development projects in the IBC would be required to comply with existing plans, programs, or policies as they pertain to water supply, demand, and wastewater. IRWD will review applications for new permits to determine the feasibility of providing recycled water service to these applicants. If recycled water service is determined by IRWD to be feasible,

applicants for new water service shall be required to install onsite facilities to accommodate both potable water and recycled water service in accordance with these Rules and Regulations (PPP 14-1). Future project applicants in the IBC shall enter into agreement(s) with IRWD to establish the appropriate financial fair share costs to be borne by the project proponent. Fair share costs may include, but are not limited to, those associated with the preparation of studies and infrastructure expansion necessary to analyze and serve the project (PPP 14-2). In accordance with IRWD requirements, each redevelopment project in the IBC must provide a fire flow analysis. If the analysis identifies any deficiencies, the developer will be responsible for any water system improvements associated with the development project required to rectify the deficiencies and meet IRWD fire flow requirements (PPP 14-3).

Wastewater

- IBC project-generated wastewater could be adequately treated by the wastewater service provider. The hydraulic analysis for future redeveloped conditions identified the wastewater system deficiencies during maximum-day conditions, including pipe segments that did not meet capacity and maximum velocity criteria (minimum slope deficiencies are the same as existing conditions). The wastewater collection system deficiencies are based on the capacity criteria, which are based on the peak-flow conditions during maximum day of the year. Although these deficiencies were considered worst-case scenarios, the IBC Redevelopment Sub-Area Master Plan recommends improvements to four pipes outside of the proposed project area. Deficient pipes that were not surcharged or did not exceed the capacity criteria by more than 25 percent were not recommended for improvement. These deficiencies were deemed not significant enough to warrant replacing segments of pipe. Refer to PPP 14-2 regarding connection fees.

Solid Waste

- Existing facilities would be able to accommodate IBC project-generated solid waste and comply with related solid waste regulations. The IBC project would result in new construction that would generate solid waste. Prior to the issuance of precise grading permits, the applicant shall show on the site plans the location of receptacle(s) to accumulate site-generated solid waste for recycling purposes (PPP 14-4).

Energy

- Existing and/or proposed facilities would be able to accommodate IBC project-generated utility demands.
- The IBC project shall comply with all State Energy Insulation Standards and City of Irvine codes in effect at the time of application for building permits (commonly referred to as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Title 24 covers the use of energy-efficient building standards, including ventilation, insulation, and construction, and the use of energy-saving appliances, conditioning systems, water heating, and lighting). Plans submitted for building permits shall include written notes demonstrating compliance with energy standards and shall be reviewed and approved by the California Public Utilities Department prior to issuance of building permits (PPP 14-5).

4.17.2 Impacts of Proposed Project

Based on the generation rates used in the *Air Quality and Greenhouse Gas Analysis* (Appendix C), Table 4.17-1 outlines the estimated utility demands of the proposed project.

Table 4.17-1. Estimated Utility Demands for the Proposed Residential Project

Land Use	Area (square feet)	Units	Natural Gas Demand (kBTU/yr)	Electricity Demand (kwh/yr)	Indoor Water Use (Mgal/yr)	Outdoor Water Use (Mgal/yr)	Solid Waste Generation (tons/yr)
Proposed project	--	60	709,369.5	263,088.8	4.4	2.7	71.2

Source: Appendix C

Notes:

kwh/yr = kilowatts per hour per year

kBTU/yr = thousand British thermal units per year

Mgal/yr = millions of gallons per year

tons/yr = tons per year

Based on the *Air Quality and Greenhouse Gas Analysis* (Appendix C), it is estimated the proposed project's natural gas demand would equate to approximately 709,369 therms annually. According to the IBC EIR, the IBC lies entirely in the service territory of the Southern California Gas Company (So Cal Gas), which encompasses approximately 23,000 square miles in most of central and southern California. Existing customers in the IBC include residential, office, and light industrial uses. Per the IBC EIR, So Cal Gas can provide gas service from existing gas mains in various locations without any significant impact on the environment in accordance with So Cal Gas' policies and extension rules on file with the California Public Utilities Commission (CPUC) at the time contractual arrangements are made (City of Irvine 2015d).

The proposed project would also result in an increased demand for electricity, indoor water, outdoor water, and solid waste collection, as compared to existing conditions. As discussed in the IBC EIR, Southern California Edison (SCE) has indicated its ability to serve the IBC Vision Plan area in accordance with all applicable tariff schedules, which are the effective rates and rules of SCE on file with and approved by the CPUC and subject to the receipt of such permits or other authorizations from public agencies as may be required for such installation. The proposed project would create a demand for approximately 263,088 kilowatt-hours per year of electricity for the proposed residential units. New facilities to support the demand for electric services would be constructed by SCE in accordance with the demand for new service. In addition, new structures would be built in accordance with the 2019 Building Energy Efficiency Standards, which contain energy efficiency requirements for newly constructed buildings. SCE would be able to supply electricity to meet the proposed project demand for electricity. Therefore project-related electricity demand would not significantly affect SCE's current level of service.

As for water supply, it is estimated the proposed project would use 4.4 million gallons of indoor water and 2.7 million gallons of outdoor water annually. The 4.4 million gallons of indoor water account for the annual amount of indoor water consumed by the project (water use in toilets, kitchen faucets, showerheads, etc.). Indoor water would eventually transition into wastewater and flow to a treatment plant. The 2.7 million gallons of outdoor water accounts for the annual amount of outdoor water consumed for landscape irrigation. Per the IBC EIR, IRWD supply and facilities planning are consistent with the general plans of the land use jurisdictions overlying IRWD.

Consequently, presuming future development is generally consistent with existing general plans, IRWD does not anticipate any problems supplying water or wastewater service to any current or future development in the City. No significant impacts related to water service are anticipated. Furthermore, IRWD wastewater treatment facilities planning is consistent with the general plans of the land use jurisdictions overlying IRWD. Consequently, presuming future development is generally consistent with existing general plans, IRWD does not anticipate problems in supplying wastewater service to any current and future development in the City. As a result, no significant impacts related to wastewater transport and treatment are anticipated.

Based on the *Air Quality and Greenhouse Gas Analysis* (Appendix C), it is estimated the proposed project would generate approximately 71.2 tons of solid waste per year. Solid waste volumes from the proposed project would not have a significant impact on the capacity of the landfills to receive Irvine's solid wastes. The City is under contract exclusively with Waste Management of Orange County for residential solid waste disposal and with various other haulers operating under a non-exclusive franchise agreement with the City. The Frank R. Bowerman Landfill in Irvine is the closest facility to the proposed project site. The Frank R. Bowerman Landfill opened in 1990 and is currently scheduled to operate until approximately 2053. The remaining capacity is approximately 205,000,000 cubic yards of a maximum permitted capacity of 266,000,000 cubic yards (CalRecycle 2016). Presuming that future development is generally consistent with existing general plans, the proposed project would not create a significant impact related to solid waste. There is adequate local capacity within the Orange County landfill system to accept solid waste generated from the proposed project; therefore, impacts associated with this issue would be less than significant.

In March 1992, in compliance with guidelines set forth by AB 939, the City adopted a Source Reduction and Recycling Element to define goals and objectives for waste reduction, recycling, and diversion. The element defines guidelines to implement these goals and objectives through eight main programs, consisting of Source Reduction, Recycling, Composting, Special Waste, Public Education Information, Disposal Facility Capacity, Funding, and Integration. The main components of the waste reduction section of the Source Reduction and Recycling Element include: (1) recycling program, including curbside, drop-off centers, buy-back centers, landfill salvage, multifamily, village commercial (year 2000 diversion goal: 31.8 percent); (2) green waste composting, including curbside, multifamily, village commercial (year 2000 diversion goal: 7.15 percent); and (3) source reduction component, including variable can rate system, master composter, public education, City procurement policies and practices, and planning and reporting requirements (year 2000 diversion goal: 10.5 percent). The proposed project would be consistent with the City's recycling project, and early coordination with Waste Management of Orange County would occur to ensure the adequate provision of recycling services for the site.

The IBC EIR identified that development of the IBC—in combination with other projects in the county that might affect utilities and service systems—would not result in service deficiencies. The potential impacts associated with an increased demand for utilities and service systems would be handled by existing providers that include buildout of the IBC area in utility and service system master plans. In addition, fees would be collected at the time of development to ensure that improvements tied to increased demand would not negatively affect service providers. The IBC EIR also identified plans, programs, and policies to reduce potential impacts on most utilities and service systems to below a level of significance.

4.17.3 PPPs, PDFs, and MMs Applicable to the Proposed Project

Implementation of PPP 14-1 through PPP 14-5 would apply to the proposed project, and would minimize impacts on utilities and service systems.

- PPP 14-1. Requirement to Use Recycled Water:** IRWD will identify customers in a zone identified in the Plan (“the Plan” collectively refers to the Water Resources Master Plan, Sewer Master Plan, Natural Treatment System Master Plan, and addenda thereto) as an area capable of receiving service from the IRWD’s recycled water system, and will determine the feasibility of providing recycled water service to these customers. IRWD will also review applications for new permits to determine the feasibility of providing recycled water service to these applicants. If recycled water service is determined by IRWD to be feasible, applicants for new water service shall be required to install onsite facilities to accommodate both potable water and recycled water service in accordance with these Rules and Regulations. IRWD may also require existing customers to retrofit existing onsite water service facilities to accommodate recycled water service. If IRWD does not require the use of recycled water service, the customer may obtain recycled water service on request but only if IRWD has determined that recycled water service to the customer is feasible and authorizes such use.
- PPP 14-2. Connection Fees:** Future project applicants in the IBC shall enter into agreement or agreements as necessary with IRWD to establish the appropriate financial fair share costs to be borne by the project proponent. Fair share costs may include, but are not limited to, those associated with the preparation of studies and infrastructure expansion necessary to analyze and serve the project.
- PPP 14-3. Fire Flow Analysis:** In accordance with IRWD requirements, each redevelopment project in the IBC must provide a fire flow analysis. If the analysis identifies any deficiencies, the developer will be responsible for any water system improvements associated with the development project required to rectify the deficiencies and meet IRWD fire flow requirements.
- PPP 14-4.** This project will result in new construction that will generate solid waste. Prior to the issuance of precise grading permits, the applicant shall show on the site plans the location of receptacle(s) to accumulate onsite-generated solid waste for recycling purposes. At the discretion of the Director of Community Development the developer of a nonresidential project may be permitted to contract with a waste recycler for offsite materials recovery. In this case the applicant must provide a letter verifying that recycling will be conducted offsite in an acceptable manner.
- PPP 14-5.** The proposed project shall comply with all State Energy Insulation Standards and City of Irvine codes in effect at the time of application for building permits. (Commonly referred to as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Title 24 covers the use of energy efficient building standards, including ventilation, insulation, and construction and the use of

energy saving appliances, conditioning systems, water heating, and lighting.) Plans submitted for building permits shall include written notes demonstrating compliance with energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance of building permits.

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